NEW

THE ART OF GAMING

FEATURING YOSHITAKA AMANO • RAPHAEL LACOSTE • JESSE VAN DIJK

IN ASSOCIATION WITH ImagineFX

100+ SKETCHES & CONCEPTS INSIDE

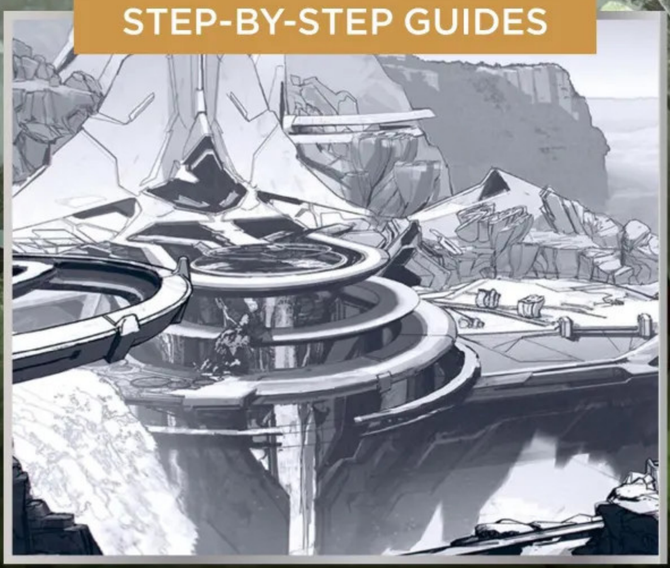
+ INTERVIEWS WITH THE ARTISTS BEHIND...

- ASSASSIN'S CREED
- UNCHARTED
- FINAL FANTASY & MORE

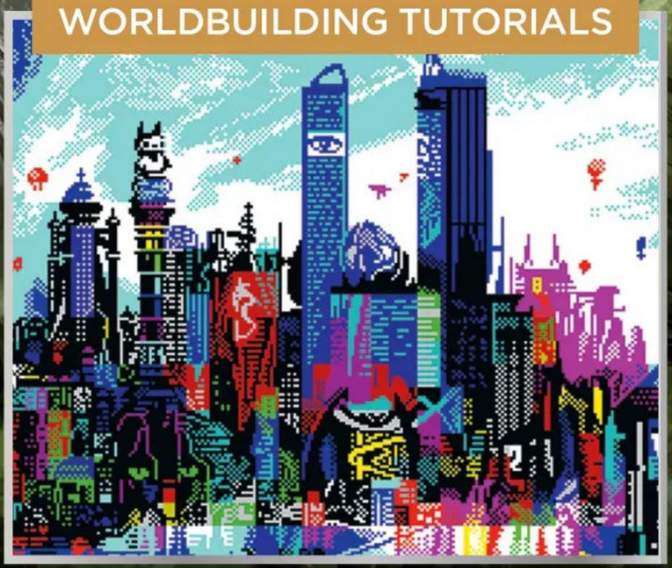
CHARACTER DESIGN TIPS



STEP-BY-STEP GUIDES



WORLDBUILDING TUTORIALS



100% UNOFFICIAL

Digital Edition

FUTURE

FOURTH EDITION



▲ Produced by former Playdead CEO Dino Patti, and the brainchild of film veteran Chris Olsen, *Somerville* prompts awe and dread. Composition is critical: *Somerville* is a side-scrolling adventure – though here colour is everywhere, dystopia is now apocalypse, and there is combat as well as the usual panicked escape.

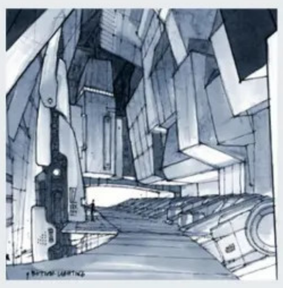
Welcome

Games can transport you to anywhere a developer's imagination dares to go. They take us to distant worlds, fantasy realms, and anywhere in space and time. These experiences are often so immersive that it's easy to forget how all our favourite characters and game worlds were once a collection of simple sketches dreamed up by an artist.

In this book, we celebrate the work of artists in the video game industry and speak to leading designers from some of the world's best studios. Discover how studios create the stunning cinematics that drive storytelling in games, plus other insider secrets. Budding concept artists will also find plenty of tips and techniques in our tutorials and masterclasses, so you can have a go at bringing your own ideas to life.

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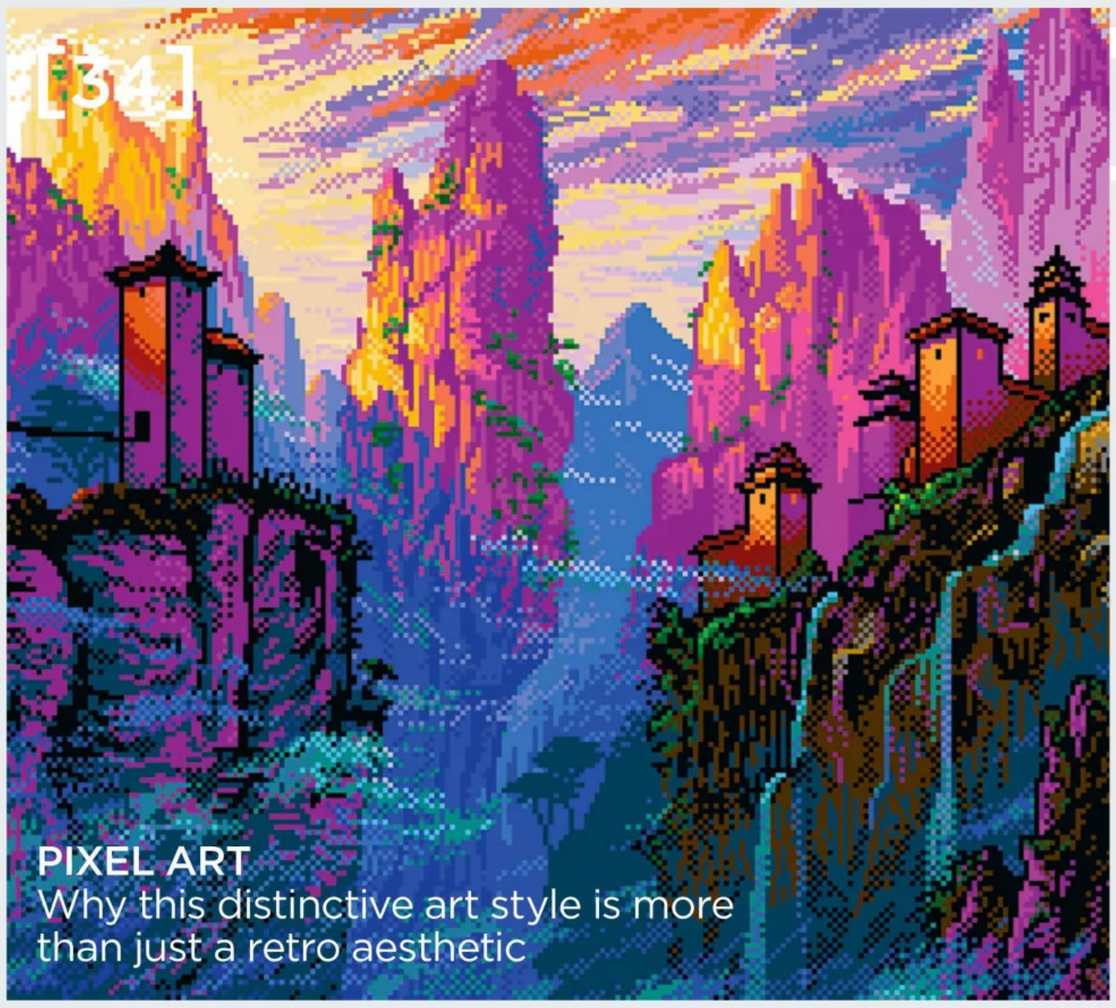
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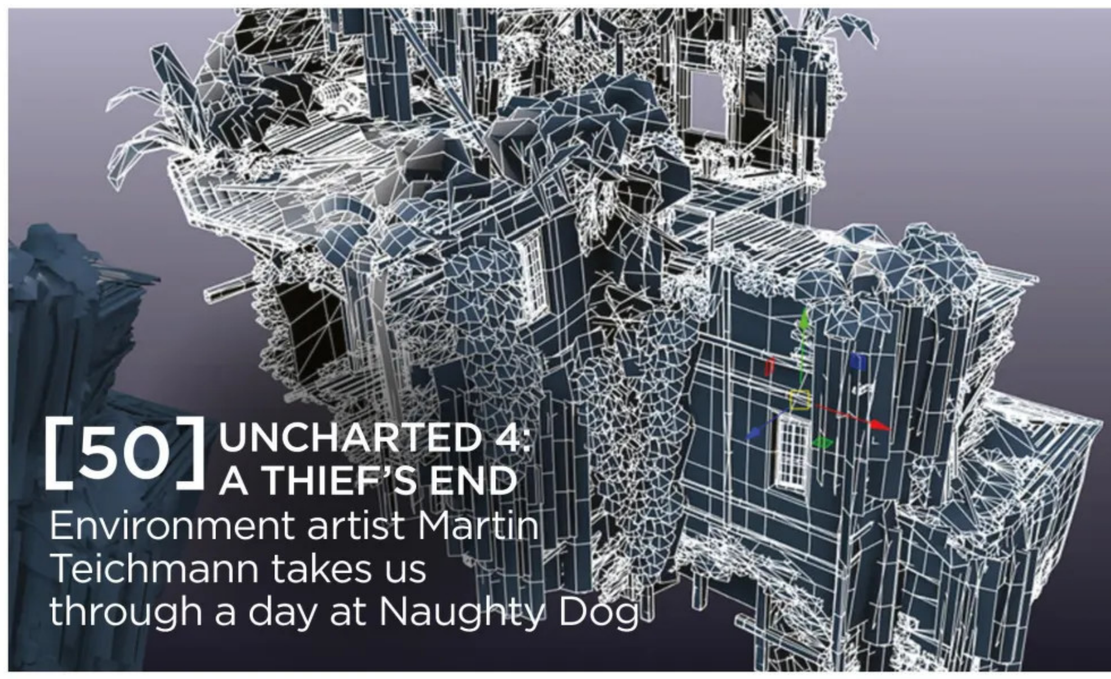
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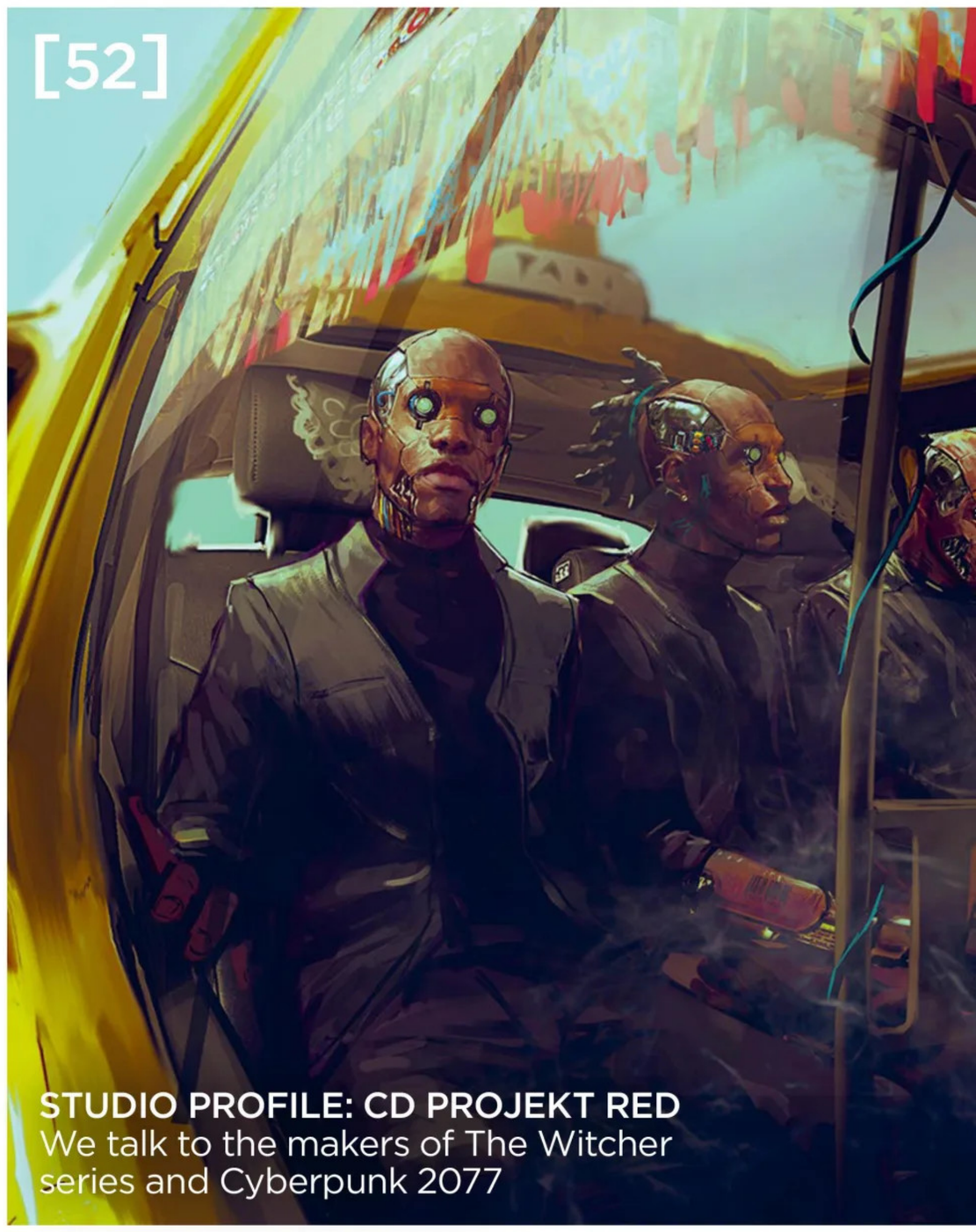


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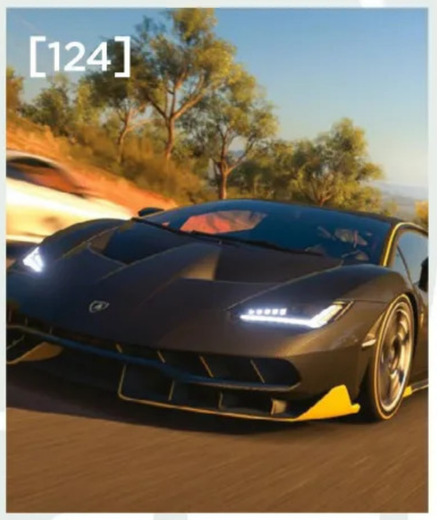
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> A concept design job in games means being able to communicate ideas clearly and effectively



THE 20 RULES OF GAME CONCEPT ART

The games industry's concept designers come from many different professional and educational backgrounds, but certain required traits and skills are universal, says **Francis Tsai**

A question I often hear from people who are not in games or art-orientated industries is: "Do you get paid to play games all day?"
Obviously the answer is "no", but it is possible to be paid to design and draw all day, which is just as good, if not better.

"How do I become a concept designer for the games industry?" is another question I'm often asked. There are many different paths you can take to achieve this goal, but they all involve certain common elements. I'll talk about some of those, but probably the main thing to remember is that the job is principally about design – yes, illustration and rendering skills are very important, but they make up only half the equation. Getting a concept design job in the games industry means being able to define and solve problems given varying amounts of information, and being able to communicate your ideas clearly and effectively.

Artist **PROFILE**

Francis Tsai
COUNTRY: US
CLIENTS: Playboy, Rock Star San Diego, Eidos Interactive



Francis works as a conceptual designer and illustrator in the entertainment industry. He has a lot of games experience, working on titles including Star Trek Online, Darkwatch, SpyHunter 2 and Tomb Raider: Anniversary.
www.teamgt.com

1 EDUCATION

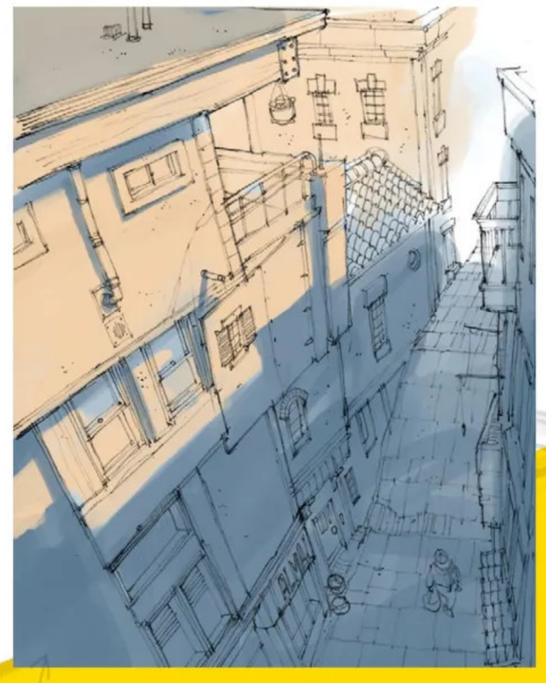
Concept designers come from many different educational backgrounds – fine art, illustration, industrial or product design, architecture or some other profession altogether. There's going to be some imbalance or deficiency that you'll have to make up for on your own. You have to be a skilled generalist. It helps to be well versed in many different areas of history, science, art, sociology and psychology – the more the better.

2 DEFINITIONS

Above and beyond rendering skills, concept design is about defining a problem, formulating an interesting and elegant solution, and graphically delineating that design solution as clearly as possible. Rendering skills are the tools that enable a concept designer to do his or her job. I read somewhere once something to the effect of "concept design is a subset of illustration." It would be more accurate to say that illustration and concept design work overlap.

3 THE ROLE OF THE CONCEPT ARTIST

Steven Olds, a talented artist and art director who taught me a lot of what I know, told me once that a good concept designer is also by definition a good role player – they should be able to hide their own artistic idiosyncrasies in order to best serve the project.



Build up an extensive mental databank of reference material – architecture is a good start point.

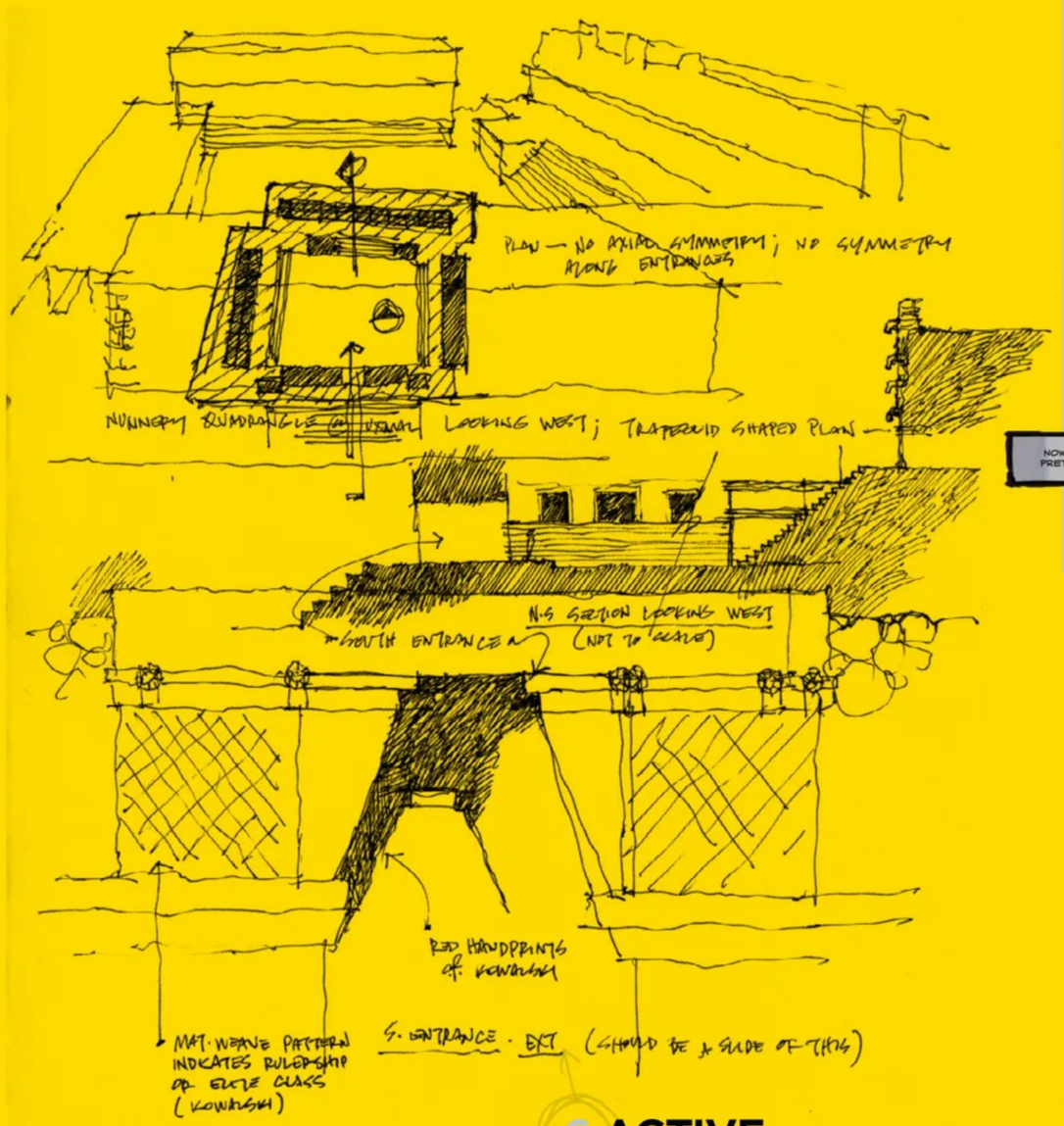
4 VISUAL VOCABULARY

Travel, experience life, see different environments, pay attention to the different ways people build things, put stuff together, eat, gather and relax. As artists, we tend to draw what we know – expanding that database of "what we know" makes us more versatile, giving us a broader range of stuff to draw from (pun intended).

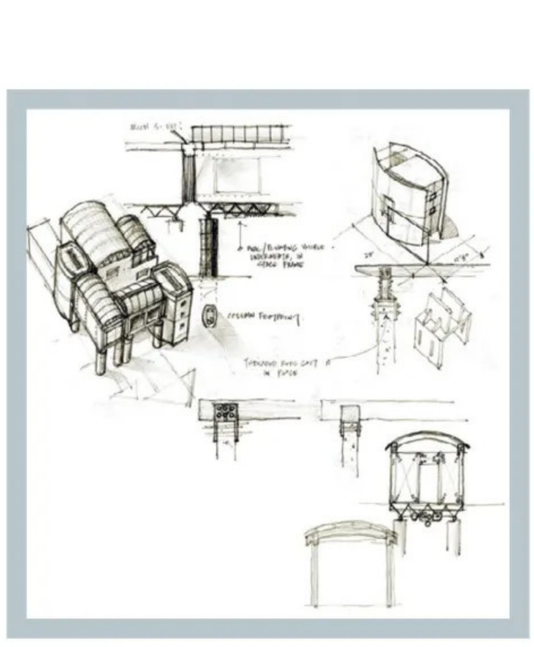
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5 REFERENCE

Accurate photo reference is essential. For real-world material in particular, if you just rely on your memory the best you can realistically hope for is to get it close; it's guaranteed that somebody somewhere will know more about that thing you're drawing than you do, and will know you haven't done your homework. Short of going somewhere to see something first hand, finding and using photo reference is vitally important.



▲ Don't just look at people, objects and environments, analyse them.



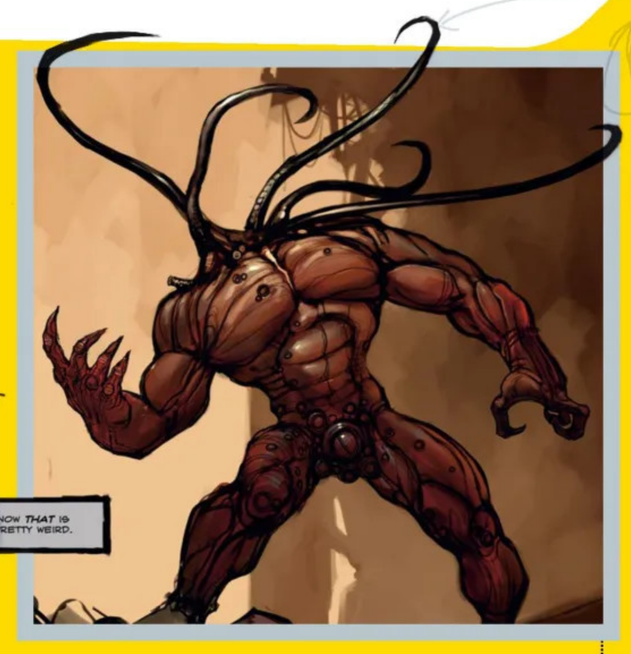
▲ In games artwork, form isn't so strictly bound by function as in other disciplines.

6 ACTIVE OBSERVATION

Studying and sketching your surroundings (people as well as objects) improves your observational skills, helping build up your mental visual vocabulary, as well as something I call "active observation skills", which means *analysing* what you see. For example, rather than simply noticing that a column has some bolts, study the structure to understand *why* the bolts are there.

7 FORM AND FUNCTION

In the real world, function is a prime component of design – you've all heard the term "form follows function." I'm a fan of that, especially as it pertains to architecture. I love buildings that express their structure and utilities. In entertainment design, the main issue is "does it look cool (and solve the design problem)?" You're not restricted by real-world physics constraints; of course, designs are more convincing if there is some nod to real life.

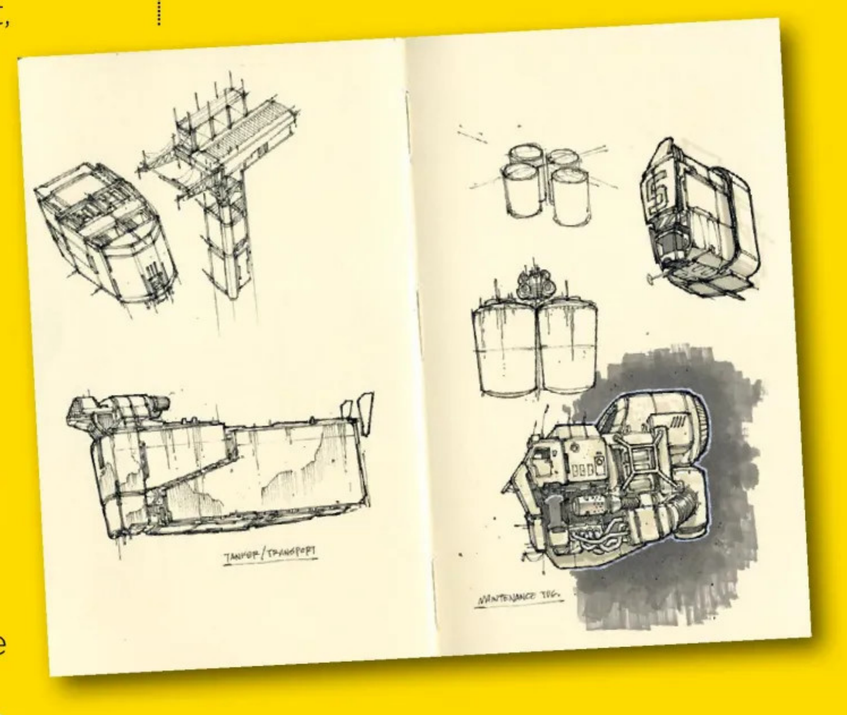


8 NO ANIME, PLEASE

Just my opinion, but avoid putting anime in your portfolio. If you *must*, make sure what you do is so good it can cure cancer. Unless you're adding some interesting new spin, it has the effect of giving your work an 'amateur artist' stigma.

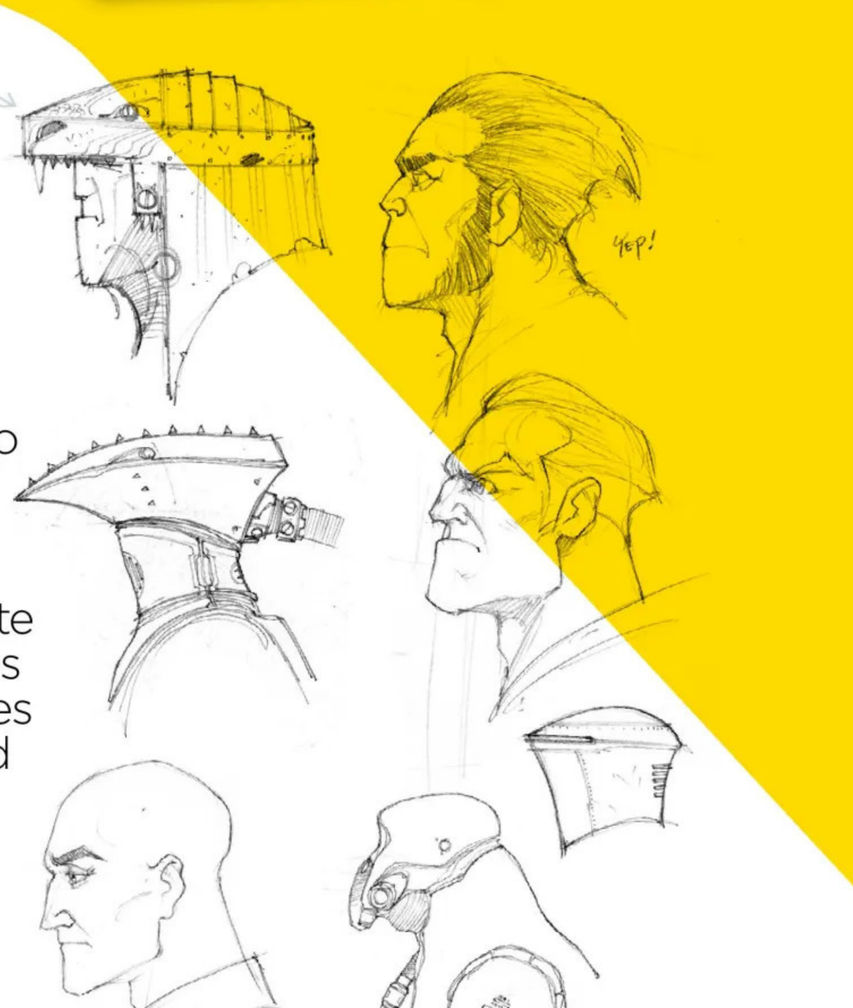
9 BIG PICTURE

As you begin a project, one of the first things to establish is the 'big picture'. Your client may have some ideas about mood, or a certain character. As the concept designer you have to be able to take a step back and perceive the project as a whole, so you know what parts are truly important, and what obscures the big picture.



10 BREAK THINGS INTO CHUNKS

One approach to design that I have had some success with is to break down the design task into manageable chunks – separate silhouette studies from pose studies from texture and material studies.



11 SYNTHESISING VS ORIGINATING

Consider the balance between synthesising and originating. By originating I mean coming up with something unique. It's almost impossible to pull off, and you run the risk of alienating your audience. Synthesising means combining different familiar elements that are rarely used together, providing a familiar link for your audience.

12 LINE QUALITY

The primary purpose of your drawings is to communicate an idea, so be clear and concise. Eliminate unnecessary noise and clutter, use heavy lines sparingly to indicate important outlines and lighter lines to indicate details and textures.

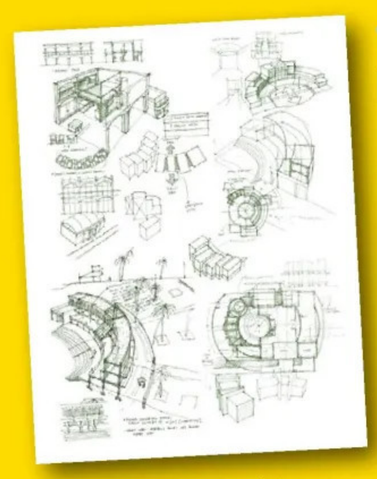
13 PERSPECTIVE

In ImagineFX issue 16, I wrote an article on the convenience of using 3D as a concept design tool, but it's still important to have a grasp of perspective to be able to sketch environments convincingly and quickly. It's a matter of keeping the big picture in mind – with 3D it's too easy to get bogged down in small details that don't serve the big picture.





Where to add detail? That is the question. Well, it's one of the questions you should ask yourself.

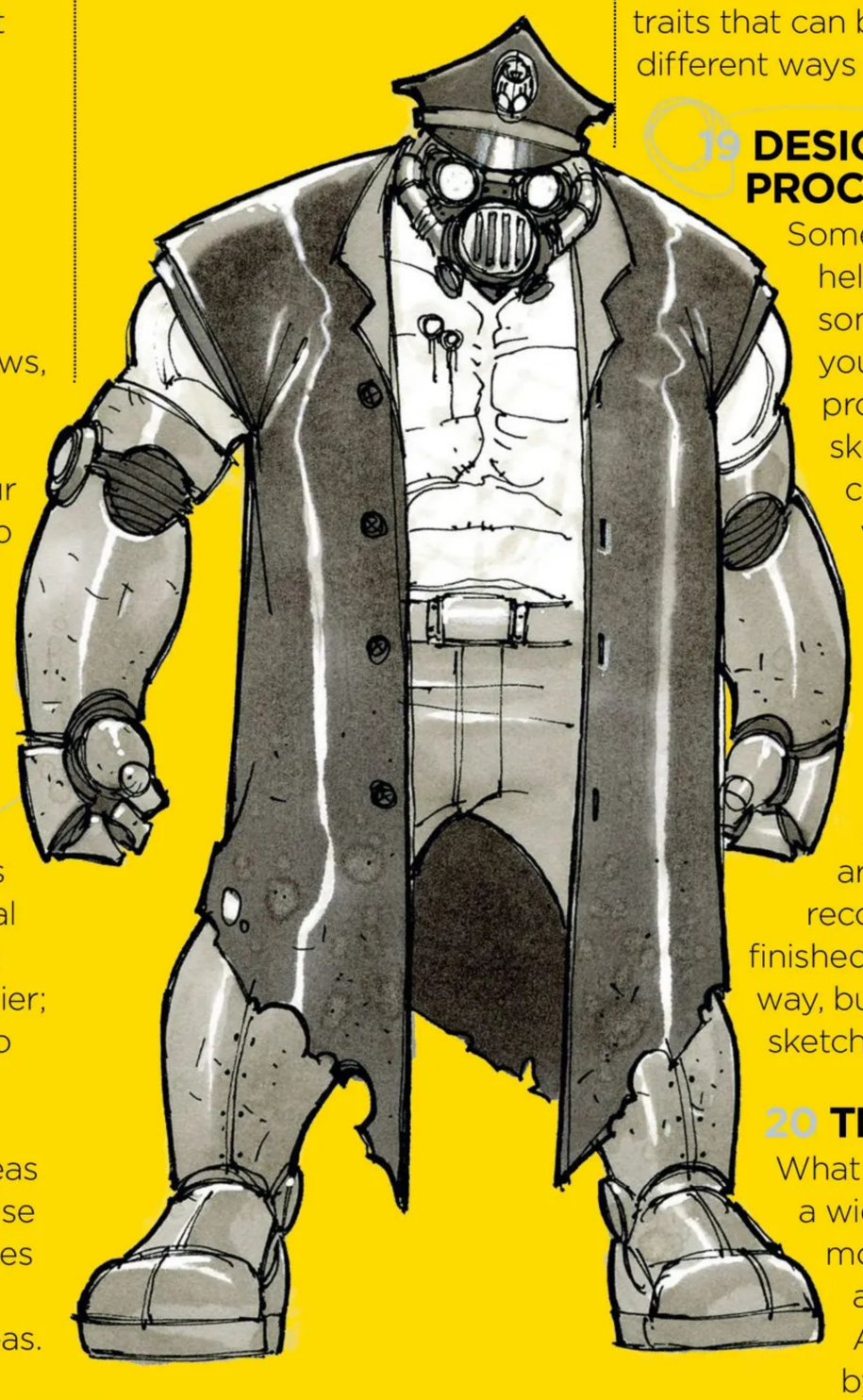


14 DESIGN DRAWING

Design Drawing is a term that refers to the process of hammering out and refining a design on paper. This process might involve drawing different views, 'x-ray vision' shots and handwritten notes. Typically you won't show these to your client, and it will often end up looking messy and incomprehensible. The goal is to explore different options, then work up and refine the initial design idea.

15 HIERARCHY

Certain drawing conventions help achieve successful visual communication. Line weight hierarchy was discussed earlier; the idea of hierarchy can also be extended to value, concentration of detail, and texture. Using all of these ideas together, and eliminating noise and clutter from your sketches can result in a simple, clear sketch that conveys your ideas.



17 INDICATION VS DETAILING

There's another balance to be struck in terms of when and where to put detail. As mentioned before, creating focus is a game involving colour, lighting and detail. Implying detail often does the job as well as carefully rendering every bit of it. In some cases, it's actually preferable, so that you don't focus undue attention on places you'd rather not.

18 LIGHTING AND MATERIALS

A basic visual communication skill is the ability to render different lighting conditions and different materials. The key to indicating materials lies in how they react to different lighting conditions – reflectivity, specularity, grain, texture are all traits that can be affected in different ways by lighting.



The key to differentiating materials in your concept lies in how they react to lighting.

19 DESIGN PROCESS

Sometimes it's helpful to provide some evidence of your design process. Notes and sketches like this can form a valuable part of your personal library – ideas can be reconfigured and reused in other situations as the need arises. I wouldn't recommend using finished designs this way, but preliminary sketches can provide



20 THE PORTFOLIO

What should go in your book? Show that you can handle a wide range of subjects, time periods, styles and moods. Show some of the processes discussed above, so we can follow your thought process. And make sure you show pride in your work by packaging it in a professional manner.

16 SILHOUETTE

For games, character design depends heavily on silhouette, which is also sometimes referred to as the 'initial read' of a character. I've emphasised the importance of silhouette in character design before, but it's important enough in the context of the concept design profession to bear repeating.

Artist insight
CONCEPT ART MASTERCLASS

Donglu Yu, a senior concept artist in the video game industry, presents her tips for generating visually striking environment concepts

Artist PROFILE

Donglu Yu

COUNTRY: Canada



Donglu has surfed the boundless world of video games and animations since childhood. She's worked on the Assassin's Creed sequels, Deus Ex: Human Revolution and Far Cry 4.

http://ifxm.ag/d-yu

Before I reveal how to create strong environments art, perhaps I should explain what I mean by strong art. These are paintings that are easy to read, quickly conveying clear designs or stories to the viewer.

There can be few artists who haven't spent hours working on a piece, attempting to add details that end up being unnecessary. My tips should help you to avoid falling into such a situation. You'll learn how to construct your images by building up a solid foundation and composition, design a lighting scheme that can help to sell your idea, before finally applying the detailing layer.

These tips will also help your conversation with the art directors when you work professionally. Sometimes, they will just tell you that the piece doesn't feel right to them, but won't give you specific reasons. This may also occur with clients who don't have an artistic background. The topics and visual advice that I'll cover here will help you find out exactly what the art director and your potential clients are looking for.

1 ESTABLISH A SILHOUETTE

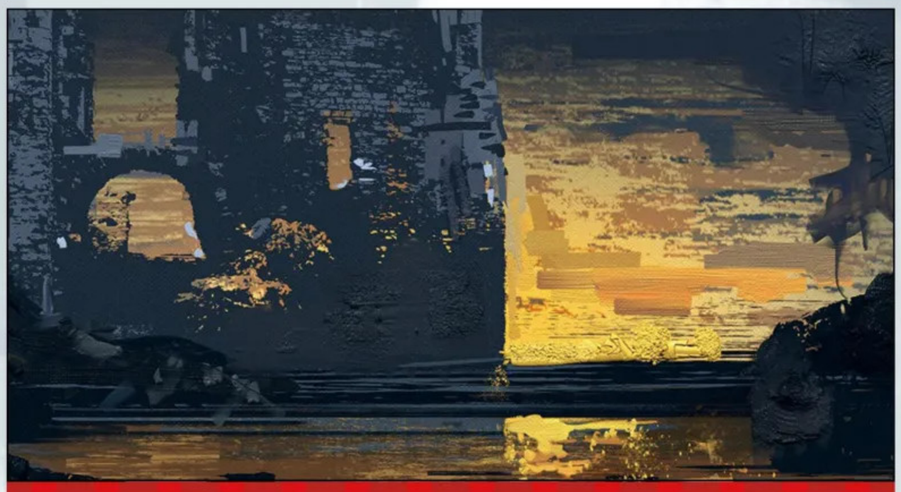
A silhouette is the outline of an object against a unique colour background. It helps the viewer to quickly recognise the subject matter, such as robots, cityscapes or characters. A strong silhouette will ensure your designs have greater visual impact. It's a great way to capture the essence of your subject, and you can do it with a simple black pen or marker.



2 COMPOSITION RULES

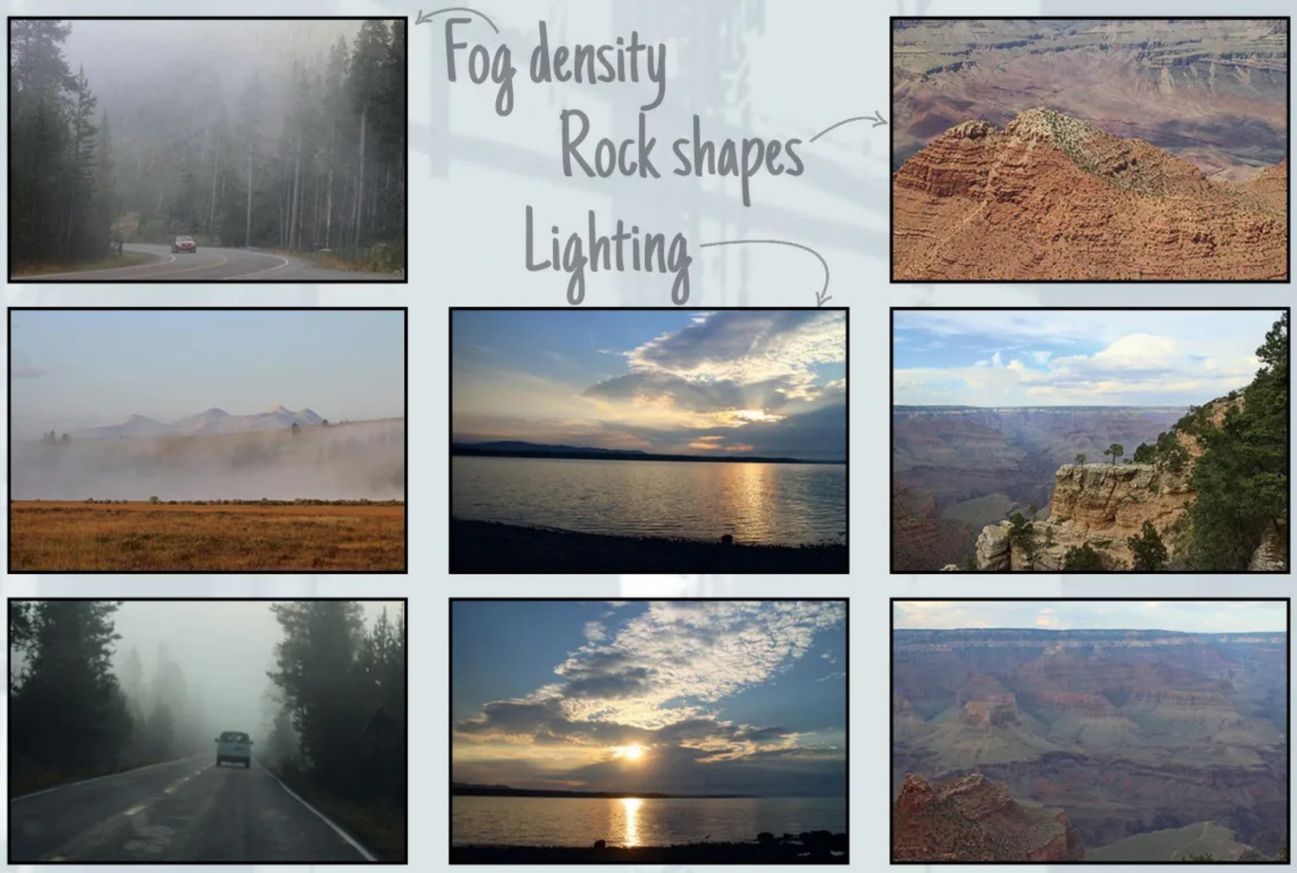
The Rule of Thirds is a popular composition tool, because it's both simple and effective. Divide your image into thirds vertically and horizontally: the focus point of your images should appear on the points where the lines cross. The Golden Ratio, meanwhile, has its basis in mathematics. It's been used in diverse disciplines such as architecture and oil paintings, but for the composition purpose, all you need to do is apply the shape of the Golden Ratio over your art and see if your focal points follow the ratio's distinctive shape.





3 BRUSH STROKES

Your brushstrokes should reveal the material, textures, body structures, and changes in lighting and volumes. This example has been created using ArtRage's Roller and Oil Painting tools. I've used small brushstrokes to indicate highlights, while larger, wide brushstrokes emphasise the change of volume on the rocks. Large brushstrokes are also used to indicate areas of light and shadow, to further enhance the volume differences.



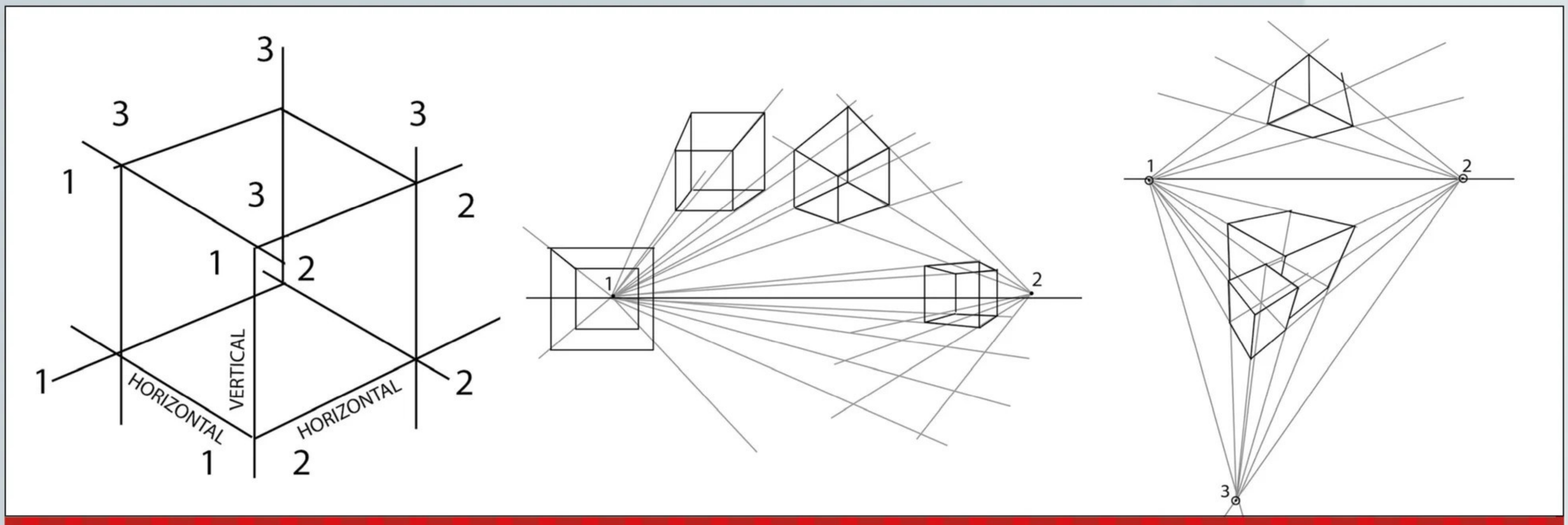
4 BUILD UP A REFERENCE BOARD

It's crucial that you study your subject, and put together a digital reference board. Consider dividing your reference pictures into different categories, such as fog density or rock shapes. In addition, having a reference board to hand makes it much easier to explain to your art director what your goals are if you're able to point to specific photographs.



> "The Golden Ratio has been used in diverse disciplines such as architecture and oil paintings"

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5 PERSPECTIVE IS KEY

Perspective is one of the foundations of art that you should make an effort to study thoroughly. Incorrect perspective in an image – particularly environments designs – will result in your images lacking any sense of realism and authenticity. Let's take a basic example. The edges of a cube form three sets of parallel lines: one vertical and two horizontal. Each set has its own vanishing point. Based on these three major sets of lines and the rules of convergence, there are three types of perspective. What distinguishes each type is simply your point of view. The subject matter doesn't change, just your view of it and how the sets of parallel lines appear to converge.



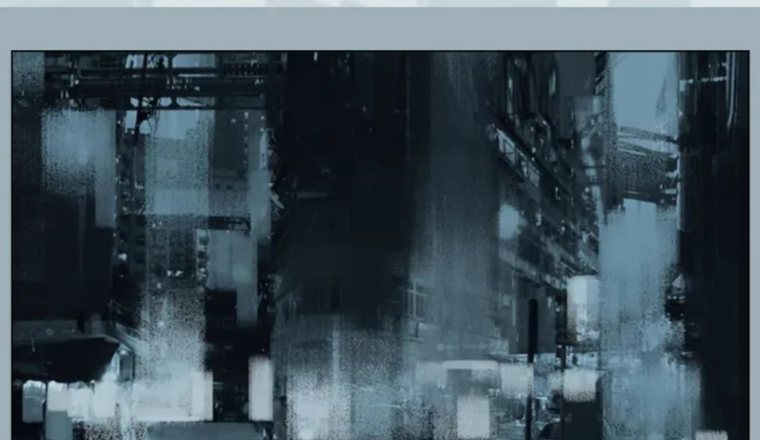


6 KEEP THE VALUES SIMPLE

For the purpose of value study, you can plan compositions with limited values by limiting the design to three simple tones: light, middle and dark. You can then build thumbnails or preliminary sketches with greater efficiency. This is an effective way to plan a painting, because it's both fast and involves a straightforward painting process. Instead of becoming carried away with the figures' details, you should only be concerned with their overall position and gesture.

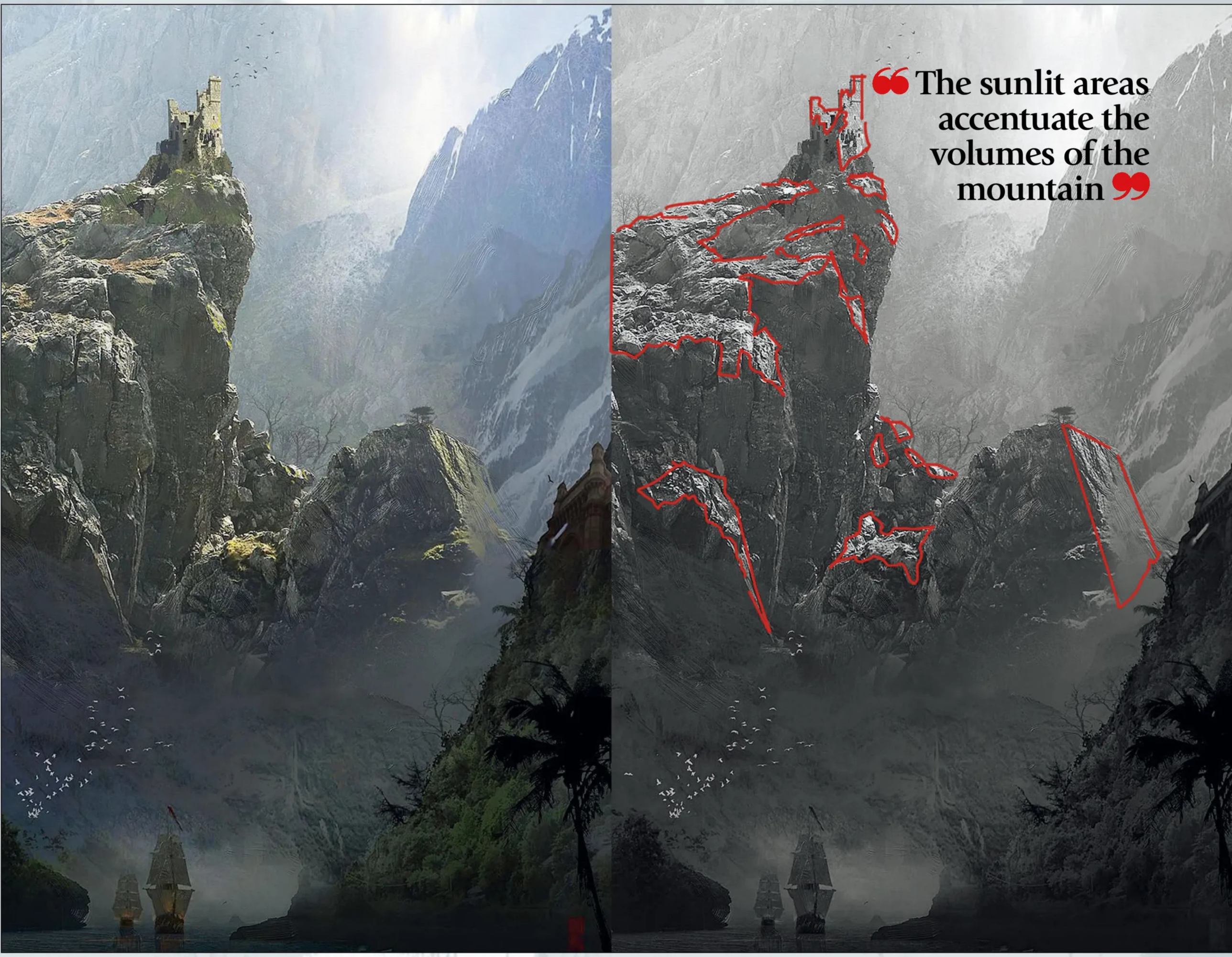
7 DIFFERENTIATE BETWEEN MOONLIGHT AND ARTIFICIAL LIGHT

There are two types of light source at night: moonlight and artificial light. In a natural landscape setting, far away from the usual infrastructure that accompanies an urban environment, illumination from the moon is usually portrayed as a pale yellow, which contrasts nicely with the dark blue colour of the vegetation. However, in a city night scene, the moon's light is often represented as blue, which enables it to dramatically complement the warm tones of artificial light.





A I start an underlay painting with a desaturated blue, aiming for a scene that's softly lit by the bluish moonlight, without additional light sources. I think about my shapes and silhouettes and try to find a visually appealing composition.



8 SIDE LIGHTING SHOWS OFF VOLUMES

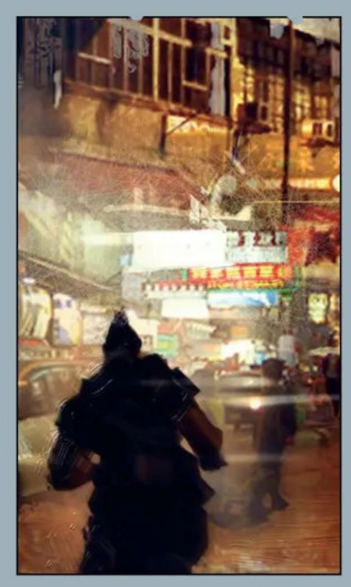
The sun produces a direct light source. In contrast, illumination from the sky is a diffuse, soft light that comes from many directions at once. Direct sunlight creates hard-edged cast shadow on the ground, and these shadows become darker and bluer depending on how high the sun is in the sky. The presence of clouds reduces the colour vibrancy of the shadows. The areas that I've indicated with red lines are the ones hit directly by the sunlight. These illuminated areas also accentuate the volumes of the mountain rocks.



B During the final painting stage of the image, I introduce crowds of people, advertising signs, cars and building details to make this snapshot of city nightlife more vivid. I also use smoke and fog to strengthen my atmospheric depth of the scene.



C Then I carefully paint in the warm artificial light sources at the base of the building, because that's where the stores or food stands are usually located. At this stage, I think about colour contrast and the level of saturation of my warm- and cold-dominated areas.

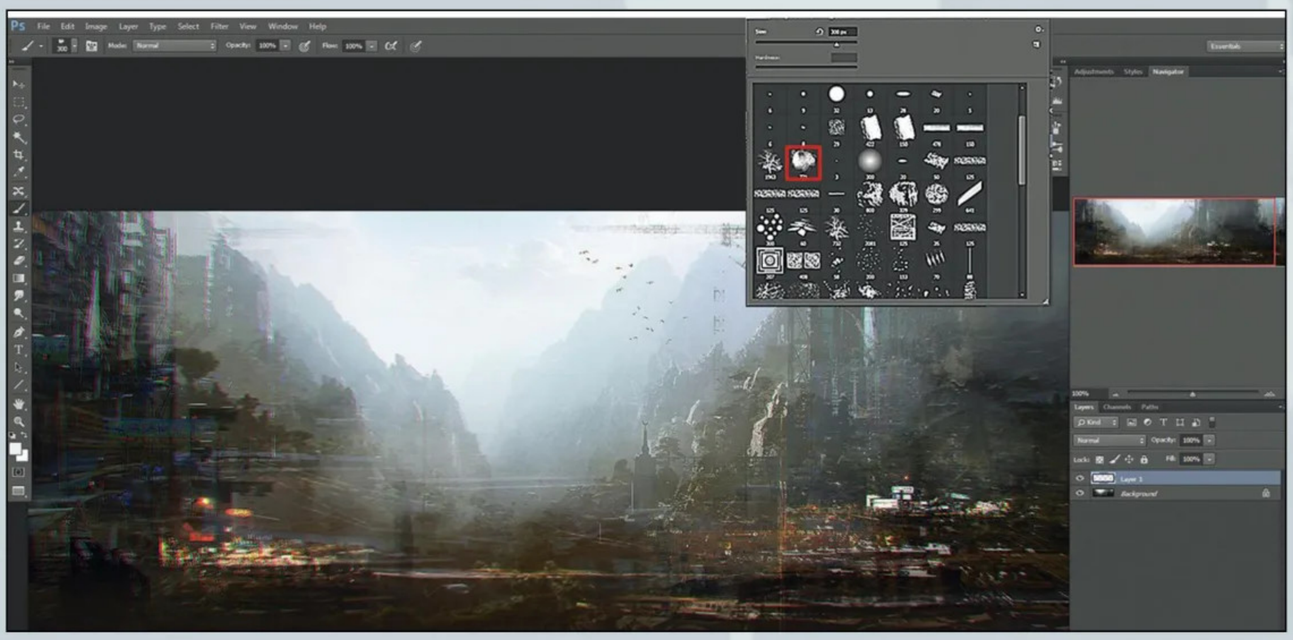


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9 COMPLEMENTARY COLOURS

Complementary colours are located on the opposite sides on the colour wheel. When placed next to each other, they create strong visual contrast and reinforce each other's colour vibrancy. The most commonly used combinations are red and green, yellow and violet, and blue and orange. The Impressionists used vibrant colour brushstrokes next to each other to enhance the lighting. In this digital sketch, I've accentuated the blue colour on the spaceship's hull by combining it with orange engines.



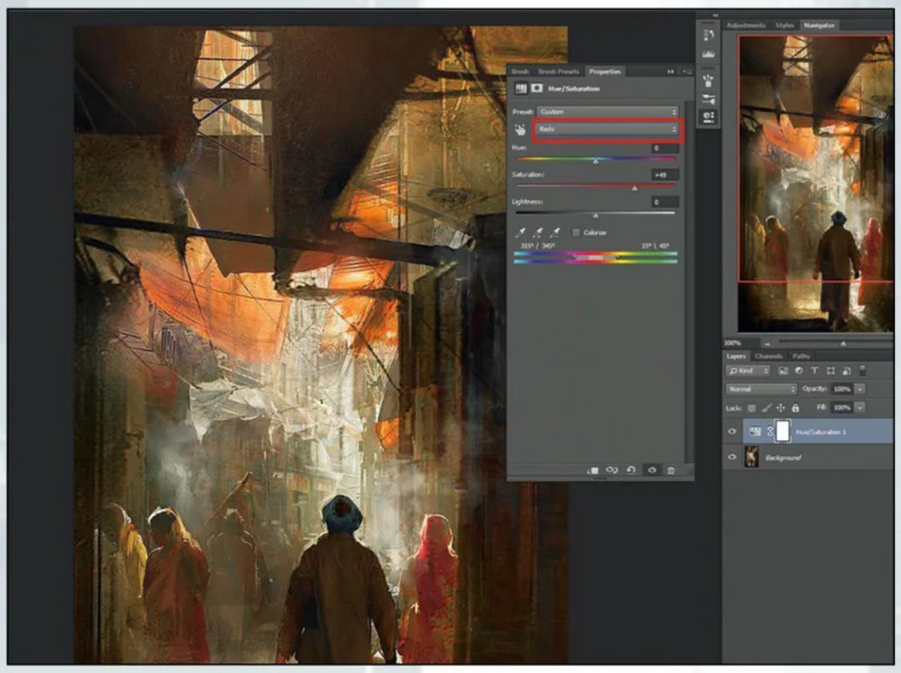
10 TAKE ADVANTAGE OF ATMOSPHERIC DEPTH

Atmospheric depth is an important part of any composition because it separates the fore-, mid- and background. A distinct separation of the three planes increases the readability of your image, which in turn increases the visual impact of your image. Elements that are further away from the viewer become less detailed as a result of different weather conditions, such as fog, haze, humidity and pollution. The background plane will usually feature less saturation, contrast and details. I often use a soft Cloud brush in Photoshop to mimic this effect.



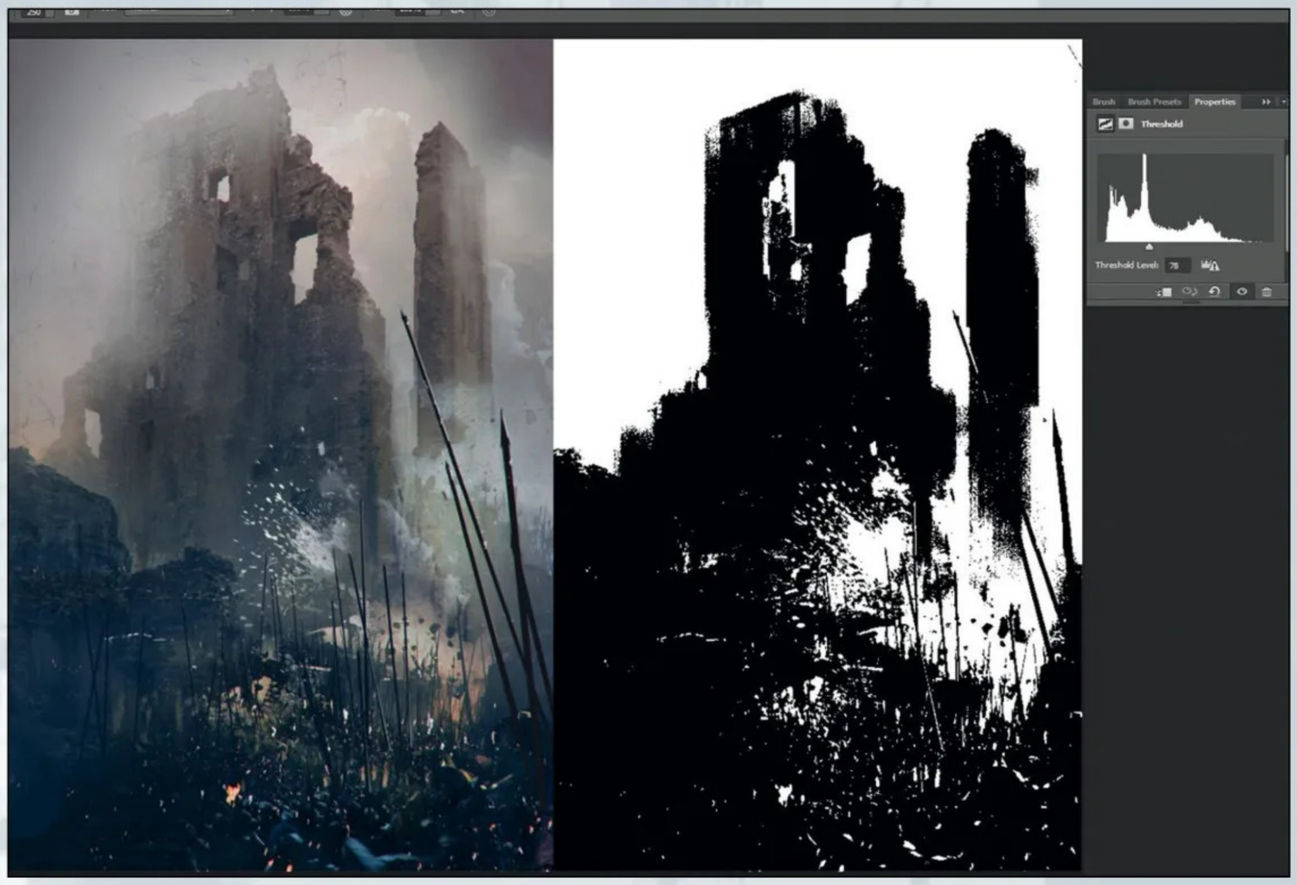
11 SHOW OFF YOUR SILHOUETTES

Contre-jour in French translates as 'against daylight'. It's probably my favourite lighting condition to use because it emphasises the silhouette of any objects. This lighting setup occurs when any object blocks the sun or any other light sources behind it. In most cases the light spills over the edges of the objects. Notice how the silhouettes of my shapes become more readable with the sunset lighting in this example.



12 COLOUR VIBRANCY

Colour vibrancy can be a strong design tool, because it can play a big role in how the brain analyses certain lighting situations. As long as you apply the basic rules, you can use more stylised colour choices that will help to give your scene a specific tone and feel. You can boost colour vibrancy with an Adjustment layer. In this painting, if I had to adjust the colour vibrancy that's created by the sunlight shining through the fabrics, I would create a Hue/Saturation layer, select Reds instead of Master and increase the Saturation level. This approach means I'm only altering the saturation level of my red tones, and not changing other colour channels.



13 VARYING YOUR TEXTURE DENSITIES

This term refers to the artistic choice of where to place characters and objects, and where to leave some empty space in an image. Not only can it create a strong composition, it can also let the viewer's eyes rest on the details that you've painted on certain areas. To double-check my image's texture density, I often use a Threshold adjustment layer that turns my painting black and white. The noisy area should be the part where I want to create action. The part where the large black shapes are should be where the viewers can rest their eyes.





14 LIGHT AND SHADOW

Learning how to paint sunlight and shade is a key painting skill. Lit areas can form interesting shapes that can enhance the graphical quality of your artwork. Here, I've deconstructed one of my finished paintings by making it black and white, before tracing all of the shaded parts in red. Notice how each dark shape is placed against a well-lit background. This enables the viewer to quickly interpret the characters' action. These dark areas also create a pleasing visual rhythm to the image, which can be appreciated on the subconscious level.

“Illuminated areas can form interesting shapes that can enhance the graphical quality of your artwork”

DIRECTOR'S CUT

Nicola Henderson talks to video game artists from leading studios to uncover the future of cinematic storytelling

If the many graphical sophistications that have become staple parts of modern video game design, it's fair to say that the sheer excellence demonstrated in cinematic cutscenes is not given anywhere near the same prominence as the in-game graphics engines that make gameplay so immersive.

At its most primitive level, the cutscene is a narrative device designed to flesh out the game world beyond what the player can control, often serving to advance a plot forward, chart character development or highlight prominent thematic details. "A cinematic is the walkway between a film and the game," suggests Franck Lambertz, VFX supervisor at MPC. "It should be a moment to get the player into the right mood for your game."

Until the dawn of 32-bit processing power in the mid-90s, the hardware restrictions of early home consoles meant that effective storytelling was often limited to a core set of narrative tools, with dialogue boxes and inventive sound design playing a huge part in defining atmosphere. Eventually, the 3D rendering capabilities of consoles like the Sony PlayStation and the Sega »

© Rocksteady Studios and Warner Bros

Saturn gave developers a chance to tap into the language of cinema, with the goal of capturing a sense of reality high on the graphical agenda.

As in-game engines became more sophisticated, so did the attention to cinematic detail. The only real downside was that for many gamers, the more polished the cutscene, the bigger the fall would be when making the transition back into gameplay. If only the rest of the game looked as good…

“If you create compelling characters and a fun world, players are not going to mind having control taken away from them briefly”

Josh Scherr, lead cinematics animator, Naughty Dog



“From an animation standpoint, understand the story part of the emotional feat that you’re trying to sell. It’s got to have a clear read to the audience, to tell exactly what you want to tell.”

“Don’t make a cutscene just for the sake of it. The whole thing with cutscenes is that you’re taking control away from the player, and if you’re going to do that there needs to be a good reason. If not, players will resent you for it and will skip it.”

It’s a different story these days. Video game cinematics have become so much more complex, and we now find ourselves watching exquisitely crafted scenes merging seamlessly with in-game graphics. And with the next generation of console hardware now upon us, it’s safe to say that over the lifespan of the PlayStation 4 and the Xbox One, the boundaries of cinematic possibilities have reached even greater heights.

THE LANGUAGE OF CINEMA

“If you create compelling characters and a fun world for them to be in, players are not going to mind having control taken away from them briefly while the rest of the story plays out,“ says Josh Scherr, who is a veteran lead cinematics animator at Naughty Dog. “That’s what we want to do at Naughty Dog – make cinematics that people don’t want to skip.”

While storytelling has always been at the heart of Naughty Dog’s creative ethos, the tense and hugely emotive video game The Last of Us perhaps best demonstrated the studio’s commitment to creating narrative-driven titles that fully embrace the nature of cinema in order to strengthen player immersion and connection to the story.

“One of the big things we did on The Last of Us in particular was pay attention to the transitions between cutscene, in-game character and gameplay,” says Shaun Escayg, lead cinematics animator. Together with fellow cinematic leads Josh Scherr and David Lam, the cinematics team spent the last third of the production time trying to seamlessly stitch together the transitions from simultaneous camera, animation and overall direction standpoints.

“If you want to keep players immersed, the quality of both the writing and the actor’s

ASSASSIN’S CREED IV: BLACK FLAG

MPC’s **Franck Lambertz**, **Fabian Frank** & **Ryan Hadfield** discuss technical challenges



MPC’s ambitious trailer had huge sets, with a ship built to scale and a 3,000m³ water tank, as well as around 100 stuntmen



Fabian Frank, 3D supervisor



Ryan Hadfield, compositor



Franck Lambertz, VFX supervisor

What was the timeframe for the game’s Defy trailer?
FF: Our crew consisted of three matchmovers and eight rotoscope artists for the preparation during a six-week period. After that, we had a team made up of two animators, three FX artists, two lighters and four compositors working on the trailer for eight weeks.

What were the workflow challenges you faced?
RH: On shots like the upper deck, we had to handle different layers: 3D renders, live-action plates, rotoscoping, live-action elements and others. It’s important to split the composition and not have everything in one big script. This keeps the Nuke files very fast, tidy and easy to change.

How did you create the realistic ocean fluids for the game?
RH: We generated the ocean and fluid effects entirely in the 3D animation software Houdini, but wanted to keep the rendering in our main 3D tool, Maya. After the simulation aspect was completed, a mesh had to be created and transferred to Maya using the alembic file format.



The Last of Us showcased Naughty Dog's ability to use cinematic techniques in order to tell the game's story in a realistic and emotive way

"Always remember that as artists, we are servitor of the story being told. It can be easy to focus on enhancing tiny details instead of stepping back and looking at our work in the context of the film or narrative."

Naughty Dog knew from its work on previous video games that by capturing both the motions and vocal performance of the actors, the characters in The Last Of Us would feel more unified and realistic





© Naughty Dog/Sony

performances must be consistently high," continues Josh. In order to make the gritty cinematics of The Last of Us stand above the norm, the virtual performances of the story's cast had to be just as believable as a Hollywood production, which meant taking lessons from films like The Road, Children of Men and I Am Legend, along with an injection of art-house flair from documentaries.

Similarly, for creative agencies like MPC – which collaborated with Ubisoft on its incredible cinematic for Assassin's Creed IV: Black Flag – translating the language of cinema across to the world of gaming is seen as a natural progression. "Video games and cinema operate in different media, but they both work in their own right," says Franck Lambertz, who feels that the emotional aspects of both disciplines are what make them such a dynamic pairing. "It's great when the two mediums meet and morph their unique attributes into a new entity."

For studios such as MPC, Axis Animation and Platige Image, establishing a solid connection between video game developers and cinematic specialists is essential in communicating the right kinds of mood. "Working on the cinematic trailer for The Witcher 3, it actually already means that you have a good relationship with the developer. We have known the teams at CD Projekt RED for many years, and it's much deeper than a typical client/vendor relationship," says Tomek Baginski of Platige Image, and director of the striking The Witcher 3: Wild Hunt cinematic. "Every project we receive from CD Projekt RED is demanding, but also allows us to stay creative in what we do. It's a relationship based on trust, and I think that makes us solid partners."

REALISTIC STORYTELLING

When it comes to creating a realistic scene, one of the major aspects of production is having a good source of reference material to help ground the animation within a believable frame. Even reality can be heightened in terms of character animation, as Naughty Dog's David Lam explains. "Realism is subtle, but it can be exaggerated. Knowing how to exaggerate it is the key thing. If it goes too far it can be too cartoony, so understanding the broad ranges from subtlety to exaggeration is very critical." »



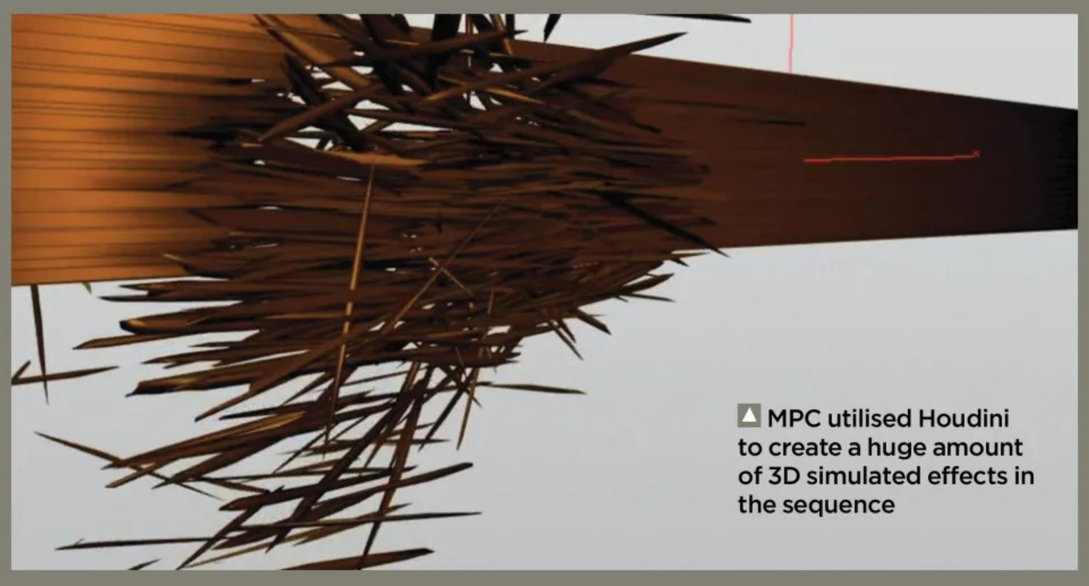
The action scenes were achieved through a mix of in-camera action, with integrated shot and 2D elements



The action required separate plates, using green screen and the set, which were composited together

MPC'S ASSASSIN'S CREED IV: BLACK FLAG – DEFY TRAILER

MPC created CG ships, ocean and explosions and composited multiple plates together seamlessly in the monumental trailer for Assassin's Creed IV: Black Flag – Defy, directed by Adam Berg and led by VFX supervisor **Franck Lambertz. www.bit.ly/assassin-full**



MPC utilised Houdini to create a huge amount of 3D simulated effects in the sequence

How did you use Mantra?
RH: Mantra was our first choice when it came to rendering volumetric particle effects. We rendered previews of the whole sequence to get a feel for the timing and to test it in advance of compositing before rendering.

What 3D software was vital?
FL: As the trailer is 90 seconds long and one continuous piece, it had to be believable that a camera was moving through the ship. One big challenge was stitching these elements together with the 3D camera in Nuke. As was working with long frame ranges. In advertising, you don't always get to work on 300-frame sections. With the node counts, you'd hear colleagues saying, "I've got 2,000 nodes in my script! How did that happen?"

VITAL POINTS OF REFERENCE

Platige Image's **Grzegorz Kukus** on character creation in The Witcher 3: Wild Hunt









◀ Platige built the environment using classic Maya paint effects, so it had a lot of geometry. Arnold handled the rendering very well, so matte paintings were only used for some of the more distant trees.

Achieving a photorealistic look must have been texture-heavy. Was this a challenge?

Trying to achieve a realistic look, we used every available tool, starting with a reference shoot followed by real actor scans. We moved on to create several finely detailed and extremely high-resolution images of every character in the sequence.

We've used Mari for years, which helps us work with huge image resolutions on multiple layers simultaneously – it's never let us down. With Mari, texture amounts and sizes aren't limited any more. We also implemented the .tx texture format in Arnold, which allowed us to optimise memory during rendering periods.

What kind of reference sources did you use to create the character models?

We stuck to the core design, but our clothing and armour designs varied slightly from what you'll see in the game. Some of the elements were based on ZBrush models provided by CD Projekt Red. We wanted to maintain the coherence of The Witcher's mood and style. The idea was to emphasis the environmental details – a grimy and very Slavic world, which was natural for both Platige and our partners at CD Projekt RED.

First, we organised a complex photoshoot. Apart from the protagonist Geralt, all the characters in the game are based on real actors. We had hundreds of high-resolution photos of every actor to work with. We also had references for every detail, from the T-pose of an actor to a the shape of a single eyelash. We also managed to find clothing from the time period, so we had the chance to actually touch authentic fabric and armour, and saw how they behaved in different light conditions.

What reference was vital to achieve photorealism?

While characters and clothing designs were nothing new to

© CD Projekt Red



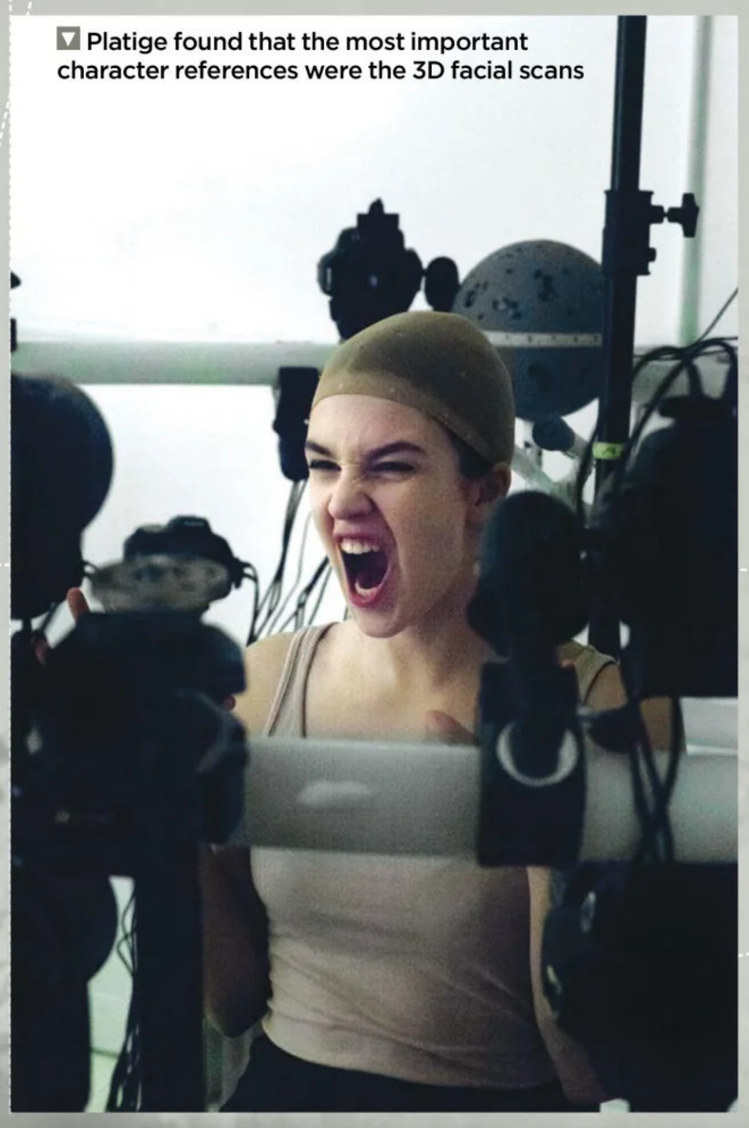


◀ Actor Mark Hamill is captured in character playing Batman's nemesis The Joker

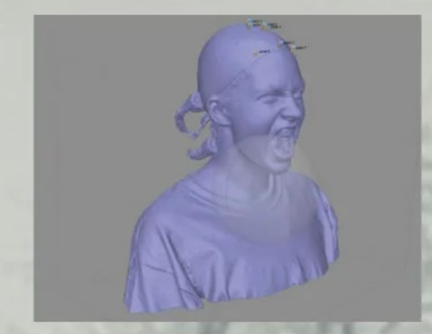
For Naughty Dog, motion capture and actor performance are vital in creating cinematics that resonate with players, and for laying the groundwork that animators will build on. Back in 2006, the development team behind Uncharted decided to cast the same actors to provide both the voice and physical performance of their characters through motion capture – an unusual approach at the time. "It makes a huge difference to the quality of the performances. What's more, instead of recording everyone separately you can record

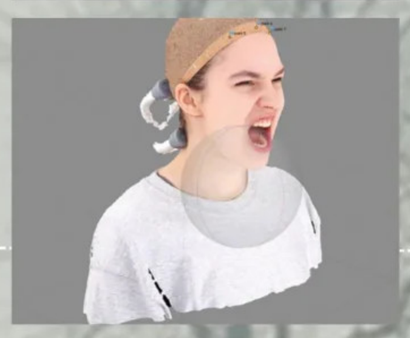
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▽ Platige found that the most important character references were the 3D facial scans





△ To achieve realistic effects, Platige devoted a lot of time to each facial animation and individual setup

△ ▷ To create the hair, Platige started by sketching the female character's hairstyle and then styled the actor's hair to match the sketches





ARTIST PROFILE

Grzegorz Kukus

Grzegorz Kukus is a CG supervisor at Platige Image, a global creative studio that places strong storytelling at the heart of its ethos.

www.platige.com

> **“Apart from the protagonist Geralt, all the characters in the game are based on real actors”**
>
> Grzegorz Kukus, CG lead, Platige Image

us, we knew that the bar for creating ultra-realistic faces was set higher than usual. The most important references were the 3D facial scans. We had dozens of scanned face mimics in various setups. To achieve a subtle and realistic effect, we devoted a considerable amount of time to each facial animation.

A similar approach was used for hair. We started by sketching our female character's hairstyle and styled the actor's hair to match our sketches. Then we start to recreate it in 3D.

What is a typical pipeline you use on a project like The Witcher 3: Wild Hunt?

We start with the script, then create the models and progress to animation process. Then it goes to the texturing and simulation guys, followed by lightning and rendering teams. Compositing combines all of these elements and gives us a final picture.

Most of the processes take place at the same time everyone together on the stage, just like you would when shooting a film. You get a unique chemistry and electricity when people are actually interacting with each other that you never would if you're just recording actors separately in a sound booth."

3D character artist and digital sculptor Mariano Steiner, however, believes anatomy to be the key to realism. "From my point of view, dictating the level of realism is all about anatomy – you can be very precise and get a realistic model, or you can distort and play with forms to get a more stylised feel."

Benjamin Flynn, senior character artist at Rocksteady Studios, warns that interpreted style is still crucial, and this requires a careful balance: "The Arkham series has such an iconic style, so we do have to balance between the two rather carefully. Even with high-resolution maps and meshes it's still important for us to get a handcrafted feel. No photo reference or scans are allowed to be used, as that would detract from the artistry we want to purvey in the characters as well as the world at large."

Character animation is held on simplified models long before the assets are signed-off and during the character animation, initial rendering and compositing work is held based on simplified movements. We prepare everything in a way that allows us to make significant changes on every stage until the very end.

"Getting the right sense of scale is hugely important. When generating something on a bigger scale with minute details, like an ocean, the task always requires higher simulation times and more data volume. By doing your research, you can find the perfect balance of realistic fluids while keeping the simulation efficient."

»

STORY-DRIVEN CHARACTERS

BioShock Infinite's lead character artist **Gavin Goulden** shares his tips for effective storytelling



1 WORK WITH THE SOFTWARE AND TOOLS YOU HAVE

Stop spending time searching for inspiration or researching software choices. Take the tools and knowledge you have and create your first character. It will be awful, but then you create another, and another. With enough practice, you'll get to a hireable level.

2 STAY MOTIVATED, AND KEEP YOUR SKILLS RELEVANT

Never forget what inspired you to become a character artist. I stay motivated professionally by being competitive. I always want to stay relevant and don't want to fall behind. I've worked incredibly hard to be where I am now, and if I didn't pay attention to the next great thing, it would be a disservice.

3 MAKE SURE YOUR WORK SHOWCASES YOUR SKILLS

Be marketable. Your work needs to show clear skills and the ability to do the job a team may need you to do. Speaking from experience, it's going to be hard to break into a top studio with a portfolio of only pixel art.

4 TRADITIONAL ANATOMY SKILLS ARE IMPORTANT

Learn anatomy. Do practical studies where you sculpt the human form; once you have a good grasp on human anatomy, you can then translate it to fantasy characters.

5 BROADEN YOUR SKILLS OUTSIDE OF MODELLING

Don't rely on ZBrush alone. Today's character artists need to be able to do more than just sculpt pretty models. You need a technical understanding of assets that will work in a game on the shelf, as well as showing that you can paint textures.

6 UNDERSTAND THAT LESS IS USUALLY MORE

Make big statements. When viewing your work, the eye needs somewhere to rest. A noisy character will become unappealing and hard to read. Choose a few different elements of your character to pop out and it will say more than a blanket of small details.

7 GIVE YOUR CHARACTER A CONSISTENT STORY

When creating a character, ask yourself why you are adding detail. What does this character do? Who are they? History isn't defined by adding wear and tear. Put some thought into your choices and make sure they all contribute to the personal story of your character.

8 LEARN HOW TO SHOW YOUR MODEL IN THE BEST LIGHT

When presenting your character, go the extra mile; pose the character out of its rigid bind pose, create a simple base for the character to stand on, set up a nice light rig, and render the image off into a final template labelled with your contact information.

9 BRUSH UP ON THE HISTORY OF FASHION AND TEXTILES

Study fashion. Learn how different outfits are built and how clothing, makeup and style have changed over time. This will help you to make smarter choices when creating a new character without resorting to piling on attachments.

10 FIND WAYS TO STAND OUT FROM THE CROWD

Break the rules. When people see your work for the first time, they aren't marvelling at low triangle counts or efficient textures – it's all about eye candy. Do what it takes to make the best piece possible that's still considered reasonable for today's hardware.



ARTIST PROFILE

Gavin Goulden

Gavin has worked for major video game studios including Bioware, Capcom and Irrational Games. He is also the author of a book about character creation, entitled The Swordmaster.

www.gavimage.com





Character artist Gavin Goulden draws on a huge range of inspiration and reference to create his characters





SKILLS AND SOFTWARE

While effective storytelling is essential, the technological feats that run alongside a good concept, script and cast are not to be underestimated. ZBrush is a popular choice for most professionals, and Irrational Games's Gavin Goulden, who worked on Bioshock Infinite, is quick to sing the software's praises: "I really cannot imagine my day-to-day work without ZBrush. I believe it has become such an essential part of most character artists' workflow that it's hard to imagine creating game art without it. It has become vital to our industry."

Of course, modelling is but one aspect of production, and Richard Scott of Axis Animation explains how Axis combined all the various tools at its disposal in order to produce the stunning debut trailer for upcoming Xbox One title Fable Legends. "We put the Fable Legends project through our standardised pipeline, which involves Maya, modo and ZBrush for asset creation, Maya for rigging and animation and Houdini for visual effects, lighting and rendering. Composition is handled in Digital Fusion, and we have our own tools to link these packages together." It's a complex process that involves a lot of planning, as Richard explains: "We invest a lot of time in pre-production and during that process Ben [Hibon, director] completed storyboarding and 2D animatics while our team was working on concept art for the key elements, as well as a colour script defining the look of all the shots."

If that wasn't enough, the team still has to build various assets, and implement procedural rigging tools in Maya to give the animators the control they need. "We then shot motion capture at the Imaginarium, with Ben on set directing the actors. Once we have the first motion-capture data, we begin to go into the layout phase, adding the data to proxy characters in a proxy environment and working on both the camera work and edit." This motion-capture data was then used by the animation team, where they pushed it further via keyframe animation and gave it that wonderful stylised feel that you can see in the final trailer.

From very early on in the project, the VFX team at Axis research and develop the key effects required, and once the animation is in progress they can begin to integrate the VFX into the final shots. "At the same time," Richards adds, "our lighting leads are doing lighting setups for the key scenes; these setups are then given to the rest of the lighting team so they can work on a series of shots. Our lighting team also composite all their own shots in Digital Fusion and work closely with the guys doing the digital matte paintings."

Naturally, the more visually ambitious the project, the more technical challenges there will be. Along with the headaches involved with coding and manual programming on The Last of Us, »

© 2K Games

"Attention to detail is key. Make sure you get that glint in their eyes and think hard about continuity and finish. Review the characters once the scene is complete and fix any areas that feel incomplete. If a scene needs it, don't be afraid to add bespoke elements, especially for close-ups."

quality consistency was of paramount interest to Shaun, David and Josh. "From a broad production sense, one of the biggest technical challenges was managing the quality in the time available and with the amount of footage," says Shaun – when you consider that the cinematics taken from the game equate to a feature-length movie of over 90 minutes, you can imagine how sticking to a tight production schedule would be hard to achieve. For David, one of the largest challenges was getting everything that was created in Maya to match with in-game material. "At Naughty Dog, we spend a great deal of time outside Maya and dealing with the game engine. It's important to understand how to integrate scenes, how to work within the game engine, as well as the game features underneath the hood, which can change a lot."

Textures is one area that sees huge improvements in each new generation of hardware. Rocksteady Studios is one company that is well-versed in dealing with detailed textures, as Benjamin explains. "We are very practised at saving on textures and UV while creating complex, but stable shader systems. You can do a lot with little if you think about key areas of a character versus unseen or repeated detail. A tip would be to use the space you save mirroring areas to include other parts that you would otherwise not have space for; or just increase the pixel depth of current elements."

"We spend a lot of time outside Maya. It's important to know how to work with the game engine and the game features under the hood"

David Lam, lead cinematic animator, Naughty Dog

For 3D artists like Mariano, achieving realistic texture effects relies on a lot of experimentation and cross-rendering. "I'd say my process is 60 per cent ZBrush and 40 per cent Photoshop. It's all a mix of brushes, alpha techniques and texture compositions. Plus having the patience to test all that again and again, until it looks the way you want it to."

So what can we expect to see from the next wave of consoles? "The one thing we're discussing is doing 100 per cent real-time cutscenes," says Naughty Dog's Josh. "There are obvious advantages to that – the transitions between gameplay and cinematics will be that much smoother, and we'll also be able to do things like persistent props and clothing, so that if a character is carrying a shotgun in a player-controlled sequence, they will be carrying a shotgun in the cutscene, too."



Axis Animation had to use all the various tools in its pipeline to create the stunning debut trailer for upcoming video game Fable Legends



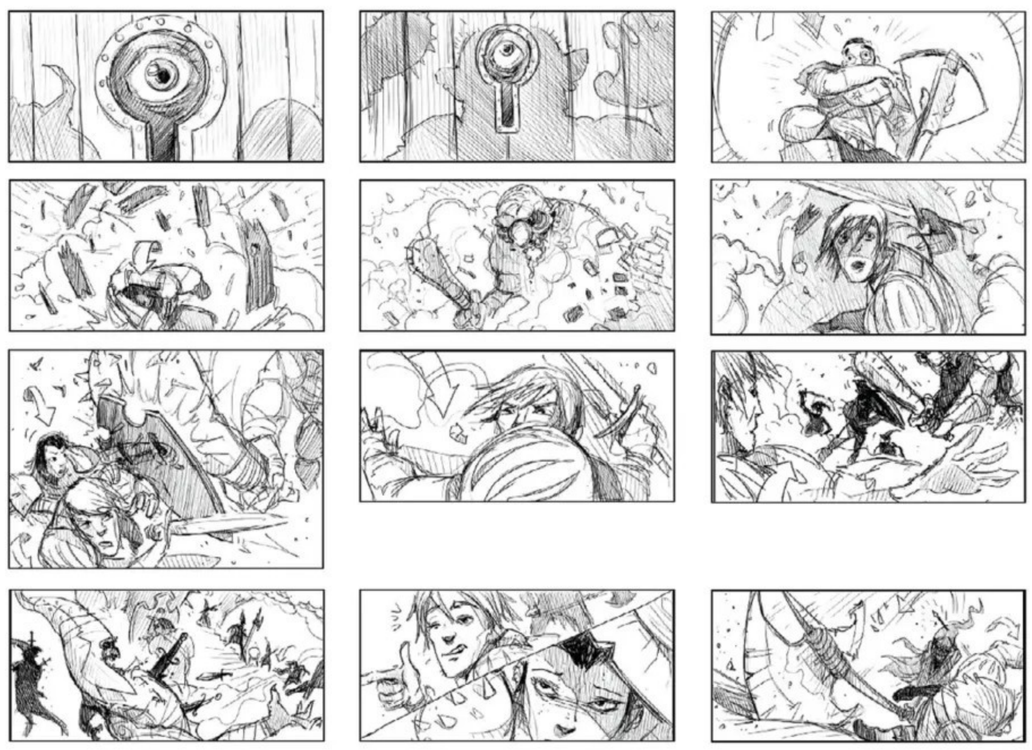
© Axis Animation

Axis used Maya, modo and ZBrush for asset creation, Maya for rigging and animation and Houdini for VFX, lighting and rendering

CAPTURING EVERY NUANCE

Likewise, new developments in performance capture will ease the ambitions of studios as they enter the next-generation of video game cinematics. Remedy licensed Dimensional Imaging's DI4D facial performance technology for its Xbox One video game Quantum Break – a technology that can derive very high-definition

"Participatory camera styles are engaging and can make you feel more than a spectator. The character sees the same thing the player sees at the same time, which can really connect the audience." Shaun Escayg,





Axis Animation's director Ben Hibon worked on the 2D animatics and storyboarding for the Fable Legends launch trailer





"Love what you do. Focus on one thing and keep it going – study hard and put time into your work. Wonderful jobs will come with time."



Remedy used DI4D facial performance technology for its Xbox One title Quantum Break, which was released in April 2016

facial motion capture from an array of nine standard video cameras, without markers, makeup or special illumination. "Quantum Break was a hugely ambitious project that combines action and narrative components to bring the characters to life. The only way to achieve the high quality of performance was to create highly realistic digital doubles of talented actors," says Sam Lake, creative director of Remedy. "By using Dimensional Imaging's DI4D facial performance capture solution combined with Remedy's Northlight storytelling technology we can ensure that every single nuance of the actors' performances are captured on screen."

"I don't think this generation will see all games solely using real-time engines – it's still too early for such a change. But it will happen one day"

Tomek Baginski, creative producer, Platige Image



DI4D is a facial-performance-capture solution that can derive high-definition facial motion capture from an array of nine standard video cameras



© Remedy

"You can use lighting in a more impressionistic way when balancing realism and artistic style. By veering away from accurate lighting setups or lighting solutions, you can 'paint' with your light more."

Perhaps, then, the question should be, just how far will the next generation of technology take us? The debate rages on between developers – Richard Scott and Axis Animation clearly believe that the future has already arrived. "The new consoles and advances in video game technology have already drastically changed the way we do things. We are working on more projects that involve real-time game engines as the rendering solution. Several years ago now, we embarked on an R&D plan to allow us to integrate even more tightly with our clients' real-time game engine pipelines," Richard enthuses. "We also set up axisVFX, a boutique visual effects studio founded by Axis alongside three industry experienced VFX supervisors and VFX producers. Continued growth in the visual effects department of our business is a big goal for us in the coming years."

However Platige Image's Tomek argues that we should keep sight of the creative energy behind the technology. "What will still be important is the story – what the creator has to say. Creativity will have fewer limitations. In this sense, I don't think the new generation consoles will dramatically change the way we work. I consider myself a filmmaker of sorts, and in that sense the storytelling rules don't change simply because of the tools we use. I don't think this generation will see all games solely using real-time engines – it's still too early for such a change. But without a doubt, it will happen one day."

A still from the Total War: Three Kingdoms cinematic. The game was released in May 2019.

PRESS X TO SKIP

We speak to leading artists and studios to find out how they make video game cinematics you won't want to skip



Cinematics are crucial to the world of video games and, although they rarely receive the same attention as in-game elements, they serve a variety of purposes, from advancing the story of a game to promoting its release. According to Hungarian studio Digic Pictures, game cinematics are a special genre of full-CG short films, sitting somewhere between VFX and 3D animation.

There's an art to creating cinematics that are compelling enough to go toe to toe with gameplay, or convince people to buy a game in the first place. We've gathered a host of leading industry experts to find out how they're made.

THE EXPERTS

As one of the UK's oldest and largest game developers, Creative Assembly has a wealth of experience in crafting memorable cinematics, particularly for their Total War series. "In our early games, cinematics included the game introduction and specific narrative moments," say the team at Creative Assembly's Horsham studio. "The in-engine tools that we developed for Rome: Total War

»



A still from Platige's Scavengers cinematic, created for developer Midwinter Entertainment.

GO YOUR OWN WAY

SOFIA GARIAZZO WEIGHS UP THE PROS AND CONS OF BEING A FREELANCE ARTIST WORKING ON GAME CINEMATICS

Working freelance means that you are your own boss, which, as Sofia Gariazzo explains, comes with its own unique advantages: "You get to choose your projects, your schedule, and work from home, or wherever you want. As long as the project is done in time how you do it is your business. Sick days, vacations, party days, you get to choose. Getting up late on a Monday after a busy weekend is particularly amazing." However, there are also a number of disadvantages too. "You're pretty lonely," Gariazzo admits. "Even though I chat with co-workers during the day it's not the same as being in a studio." There are also technical challenges, as she explains, "If you have a hardware problem, you have to fix it yourself, which can have disastrous effects on your schedule." Which leads her onto the next consideration: "If you're not careful, you'll end up working all day and night, because there's nobody to tell you to stop and go home."



Platige worked on the cinematic trailer for Ubisoft's For Honor, a game that takes place in an alternative version of the Middle Ages. Directed by Dominik Wawrzyniak, the cinematic premiered at E3 2018 in LA.

in 2004 allowed us to start making trailers using the game engine."

They continue: "Fast forward to today and our games feature a mix of in-engine rendered movies, 2.5D narrative movies and heavily stylised 2D-animated movies. Our team is constantly evolving and growing to meet the demands of higher-quality cinematic experiences."

Creative Assembly's in-engine cinematics are parts of the game that require cinematic cameras, for example panning around the campaign map at the start of a game or introductions to historical battles. 2.5D refers to in-game cutscenes that are created as animated 2D layers. Pre-rendered cinematics are generally outsourced, as they require huge teams. "We only do one every year or so," they add. "In-engine rendered cinematics make up the majority of our team's work, we create trailers for marketing and cutscenes for the games using the game engine."

One studio collaborating with Creative Assembly on cinematics is the Poland-based Platige Image. "As far as video game cinematics are concerned, the intro and outro for the first instalment of The Witcher franchise was our first foray into this field," explains director and art director Jakub Jablonski. "Video game cinematics and trailers have become a permanent fixture of our output and we've since had the pleasure of producing movies for a number of games that we grew up on." These games include the likes of Ghost Recon, Halo 5 and Hitman.

Platige also work on a number of CG game trailers. Jablonski explains: "The video game trailer is a genre unto itself, blending a traditional movie trailer with a product commercial and the innovative storytelling of animated shorts." Producing game trailers is very different to run-of-the-mill VFX work, and is a much greater challenge artistically: "A stand-out trailer needs to have two things: good CGI, from both the technical and artistic perspective, and a captivating storyline."

He adds: "In my experience, the best trailers also feature a well-constructed reveal of a key detail,



▲ Platige's Total War: Three Kingdoms cinematic was directed by Kamil Pohl, with Łukasz Nowicki as the art director.

either related to the setting or a specific game mechanic. Personally, however, I believe that the atmosphere of an individual title is often the key element that the film's success hinges on. Capturing that can be incredibly difficult, especially in view of the fact that we rarely have the opportunity to play the finished product before we start work on the trailer. This is where the game's developers come into play, and their assistance is often invaluable."

Digic Pictures have been building cinematics since 2002, when they were asked to create five 3D cinematics for EA's Armies Of Exigo. "Now we're a 16 year-old animation studio working on AAA titles like League Of Legends, Rainbow Six, Call Of Duty, Final Fantasy, Destiny and Assassin's Creed, to name a few," adds CEO Alex S. Rabb.

There's also a huge number of freelancers lending their talents to game cinematics, like Sofia Gariazzo, who specialises in modelling, shading and grooming. "It was all by chance," she says, discussing how she got her start. "I've always liked drawing, and when I was around 14 years old my father found me a free modelling software called Anim8or, then he got me 3ds Max. Fast forward ten years and here I am."

Gariazzo landed in cinematics when she graduated college and had to choose between jobs at a game studio or cinematic studio. "Both were really interesting but in the end I chose cinematics. I don't rule out working on video games in the future, though," she says.

THE ART OF CINEMATICS

A range of disciplines come together to create the stand-out cinematics of games, from storytelling to cinematography. "You need a beginning, a middle and an end," explains the team at Creative Assembly, when asked how they approach the challenges of a cinematic narrative. "Even the smallest sequence of shots should be a story in itself. For example, an archer firing a bow should be aim, fire, impact."

> **"Even the smallest sequence of shots should be a story in itself"**
>
> Creative Assembly team

The Total War series provides Creative Assembly with a unique proposition when it comes to storytelling: "The series is an interesting beast as it's based on history, yet the story in the game is what the player decides. The narrative exists in the player's mind as they play and it can evoke emotions as powerfully as any novel or film. As we tell the story of renowned characters, like Caesar, Attila and Liu Bei or even Karl Franz, we need to make sure the character's motives and appeal are in line with their story. Our trailers need to give viewers a peek into the emotions Total War will provide them – what is it like to be commanding thousands of troops and defending an empire? What is it like to be able to rewrite history?"

Platige took the term cinematic to new extremes with their recent work on the announcement trailer for Vampire: The Masquerade – Bloodlines 2, the long-awaited sequel to a cult classic video game. "The production had a very tight deadline, but it seems like our first-person vision of Seattle has really managed to electrify game players worldwide," says Jakub Jablonski.

▼ Creative Assembly was established in 1987 and has over 500 staff across studios in West Sussex, UK and Sofia, Bulgaria.



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ANATOMY OF A SCENE

Creative Assembly break down their pipeline for creating striking game cinematics

First we get a brief – either from the game team or marketing team. From there we'll agree a basic concept and create a rip-o-matic. The rip-o-matic conveys the very early vision of what we ultimately want to achieve. They're usually built out of stock film footage, stills and footage we shoot ourselves to fill in the gaps. It's key for visualising the narrative piece and allows the team to determine the timelines and budget.

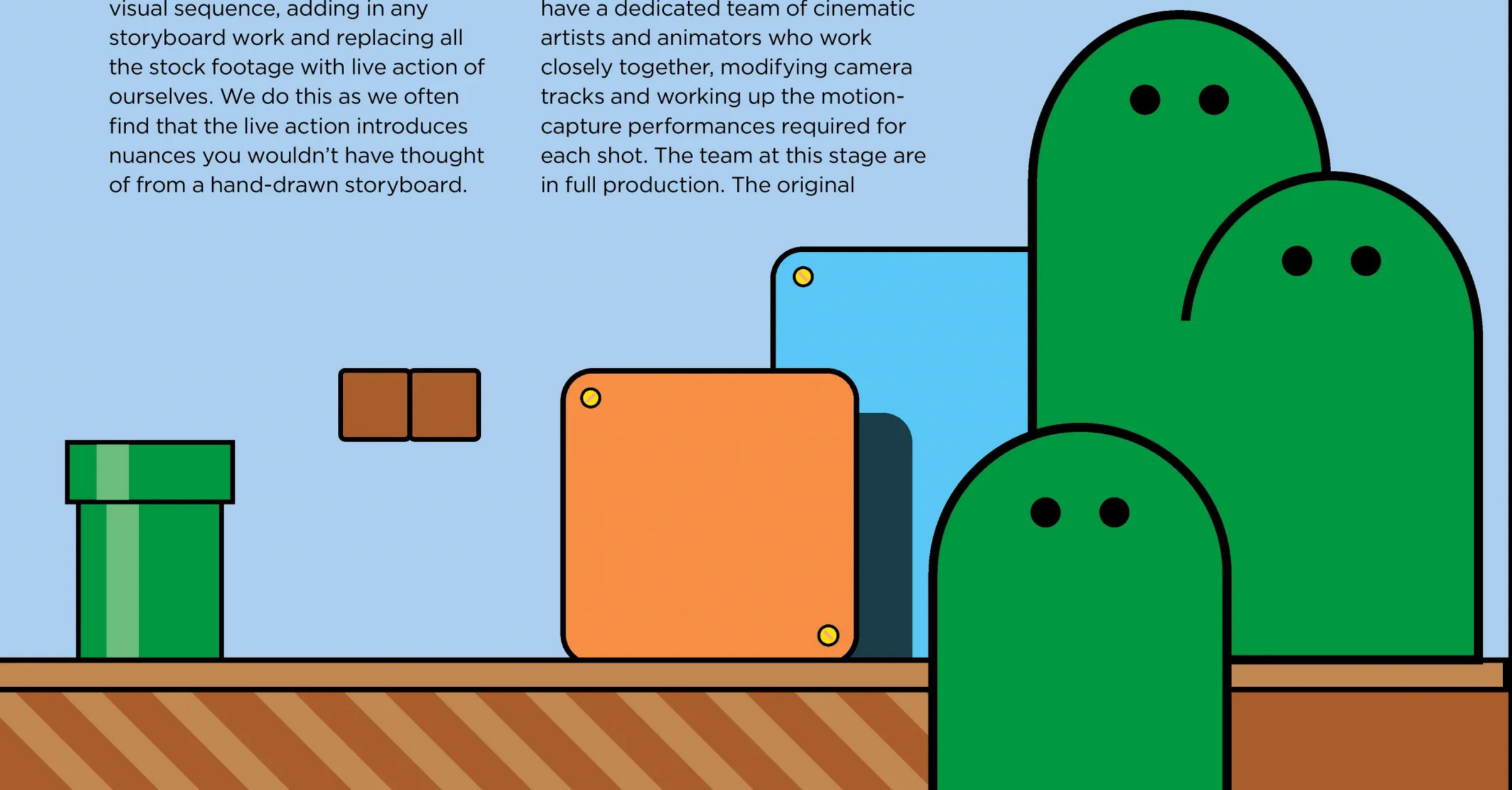
The next stage is the most important stage, and that's to create an animatic, based off the rip-o-matic. We begin to build the sequences up exactly as we'll see them in the final asset, weaving in the early script into a more refined visual sequence, adding in any storyboard work and replacing all the stock footage with live action of ourselves. We do this as we often find that the live action introduces nuances you wouldn't have thought of from a hand-drawn storyboard.

Voice actors are selected and any audio required for lip syncing is recorded. Assets such as character models, rigs and props are realised, along with any scenes that require pre-vis due to their complexity.

Once the animatic is signed off, the team moves into the early production phase where acting performances are rehearsed ahead of recording all the motion capture. Usually we'll perform ourselves, and this is a great opportunity to get creative and really immerse yourself into the character you are playing.

Once we have the motion-capture data the performances are modified and camera creation within the 3D software begins. We have a dedicated team of cinematic artists and animators who work closely together, modifying camera tracks and working up the motion-capture performances required for each shot. The team at this stage are in full production. The original animatic is now slowly being updated, replacing each live-action shot with the final 3D assets. We have a suite of powerful in-house cinematic tools at our disposal to use. This includes a tool that allows us to sequence together in-game animations, which means we don't have to rely on the game logic to make the characters perform specific actions.

The final sequences are rendered out of the in-game engine and placed into Adobe Premiere, where the shots are edited and composited until the sequence is final, and to the high quality that we expect.





▲ Above: Platige's cinematic trailer for Skull & Bones, by Ubisoft, debuted at E3 2017.

The mocap session for the trailer saw GoPro cameras mounted on the heads of stunt performers. Jablonski adds: "Thanks to our incredible stunt team, under the direction of Maciek Kwiatkowski, we managed to shoot all the underground combat sequences in one take." The trailer introduces a plethora of memorable characters and even homages The Shining.

"The actions of our protagonist, the brutality and desire to climb to the very top of the vampire hierarchy in the city, are mirrored, somewhat abstractly, in the blood which slowly overwhelms the city," he says of the trailer's final shot, which shows a visually arresting wave of blood about to wipe out the entire Seattle waterfront.

Digic Pictures' approach to storytelling varies depending on the demands of a particular cinematic. "It depends on what story the customer wishes to tell, and what the particular story requires," says narrative director Csaba Vicze. "We work with a variety of directors and each of them is exceptional in different ways. There are those who have a stylised, classical animation style, and there are others who are better with quick cut actions, or who take inspiration from classical filmmaking."

After choosing a director appropriate for the project, Digic respond to a brief sent by the client with a preliminary narrative package and a script. "This way, it's possible to easily clarify what kind of film tools we want to use for the cinematic," adds Vicze. To gain a better understanding of the approach the team gather examples from well-known movies: "We make a rip-o-matic version where we can show what kind of camera tools, lenses and editing styles we want to use." Alongside this process, the team at Digic will undergo a visual development process, where they will develop the mood, set design, costume design, character design, lighting and the main setting.

For Gariazzo being a part of this creative process is the ultimate reward: "The final results look incredible. It's a wonderful feeling when you see your work move through the pipe and see what other people have brought to it. You slowly piece the



▶ Platige began as a studio comprised of a dozen people, focused on producing commercials and music videos.

THE GENERATION GAME

HOW DIGIC PICTURES ARE INCORPORATING THE FUTURE OF COMPUTER ANIMATION IN THEIR GAME CINEMATICS

One of the fundamental drives of Digic is to continually improve its next-generation 3D and computer animation technology in order to be able to create high-level visual content. It was this that led them to create a dedicated company, Digic Services, which provides high-end motion capture and 3D photoscan services. As well as their own motion-capture studio they have a dedicated team for photogrammetry-based scanning, and a custom-built, professional, ultra-portable photoscan system of 112 DSLR cameras (112 x 24 mpx) for full-body scanning and 56 DSLR cameras (56 x 24 mpx) for face scanning. Digic Pictures uses these 3D scan services for its own award-winning animated films, and on projects including Mars, Robin Hood and the Oscar-winning Blade Runner 2049.

They have also launched a special department called Digic Studios. This division produces cinematics and virtual reality experiences in real time. The production phases are the same, with assets and shots created in a similar way. The difference being that shaders, lighting and effects are all made in real time, meaning that the team don't have to wait for hours for renders and simulations.



Digic Pictures' headquarters in Budapest, Hungary. The studio has been working on CGI creations since 2002.

whole cinematic together, and it happens pretty fast, unlike in video games or movies, where you may have to wait years to see the final product. Personally, I've always enjoyed watching trailers. Sometimes I've preferred a well put-together trailer over the movie or game it was trying to sell. It makes me very happy to be a part of that process."

THE CHALLENGES

A unique art form breeds unique challenges, and video game cinematics are no exception. All our experts have experienced their fair share of both technical and artistic challenges in the pursuit of cinematic greatness.

"As usual during the creative processes, the biggest challenge is finding the opportunity for creative development, and at the same time, adapting ourselves to the production deadlines and expectations," says Róbert Kovács, head of CG at Digic Pictures. "The desire of every creator is to develop unique, exceptional work. This is no different for Digic. We like to give the opportunity to our artists to work on exciting projects and to make extraordinary movies."

In the world of video game cinematics artists and studios are required to work with very tight deadlines. It's often a challenge to meet the high bar they set for themselves, something Sofia Gariazzo attests to: "The biggest challenge with cinematics is the pace. The deadlines are so tight that you have to be constantly learning how to speed up your workflow while still delivering decent results and staying within the pipeline of a particular studio. I don't have much experience outside cinematics, just a couple of gigs here and there, but I've never experienced deadlines so demanding."

Jakub Jablonski refers to Platige's biggest challenge as "a temporal paradox," in which they are often required to show something that is in the early alpha stages or in various stages of development. "Time is almost always the biggest challenge that we face," he adds. But Jablonski and his team also face their fair share of artistic challenges: "Character work is always the hardest, particularly when it comes to facial expressions and emotions. The uncanny valley is always there, just waiting to strike. But we nevertheless try to push the envelope as close to realism as possible, always hoping to break through the barrier. Luckily for us, CGI characters don't always have to be hyper-realistic to have that spark of life to make them stand out."

> "You have to constantly learn how to speed up your workflow"
>
> Sofia Gariazzo, freelance 3D artist

The team at Creative Assembly are able to circumvent some of these taxing deadlines by using their own in-house mocap studio. They're one of only a handful of developers in Europe to have one. "Having our own mocap studio a short walk away is incredibly useful," explains the team. "The turnaround on the data once shot is fast and if we need to make any unexpected last-minute changes we can simply run up, dive into a suit and recapture. It gives us real flexibility and the opportunity for plenty of creative freedom."

Digic are able to make use of a similar mocap facility, equipped with a Vicon motion capture system. Their system is able to capture up to ten actors along with props. Thanks to their in-house developed Vicon Blade Tools the team are able to quickly process the footage in post.

PRESS PLAY ON YOUR CAREER

If this combination of game development and cinematic sensibilities sounds appealing, then you might be wondering how to tailor your skill set towards it. Should you apply to work at a studio, or build a portfolio from your own home?

"What worked best for me was spending a couple of years in a studio," Sofia Gariazzo tells 3D World. "Before that, I didn't get much work and the ones I did were usually pretty bad. But in a studio you get to make a decent portfolio and learn a ton of stuff, but most importantly – you make contacts." Gariazzo admits that most of the work she's done since have come from past colleagues recommending her. "I always make sure to

recommend co-workers as well, it's a good practice for everyone involved," she adds.

Whether applying to work at a studio or setting out as a freelancer, a good portfolio is the ultimate weapon in your arsenal. "You need to have a good portfolio to land a job," asserts Gariazzo. "If you don't have any professional work, then work on some personal projects and make them look as good as you can until you get offered something, and then do your best on that."

According to Digic, the bigger the studio is, the more specific skill sets they will be looking for. This is where a wide-ranging knowledge of CG will become helpful. In the game cinematics industry, a deeper knowledge of video game development could be a huge advantage, how they are created, the engines, different types of gameplay, and so on. By building a portfolio this way you'll be able to hone in on your preferred field. For many of the most experienced artists, there is little difference between game cinematics, VFX or 3D animation films.

Jakub Jablonski boils success down to some more fundamental qualities. "In my opinion, a good artist working in a studio like ours has to have good communication skills, a healthy fascination with CGI and a desire for self-improvement. Independence and self-reliance are also very important traits, and many in our industry tend to forget how important these qualities are for their personal, technical and artistic development."



▲ Founded by Andrew G Vajna and Rabb Sándor Alex, Digic currently employs over 250 people.



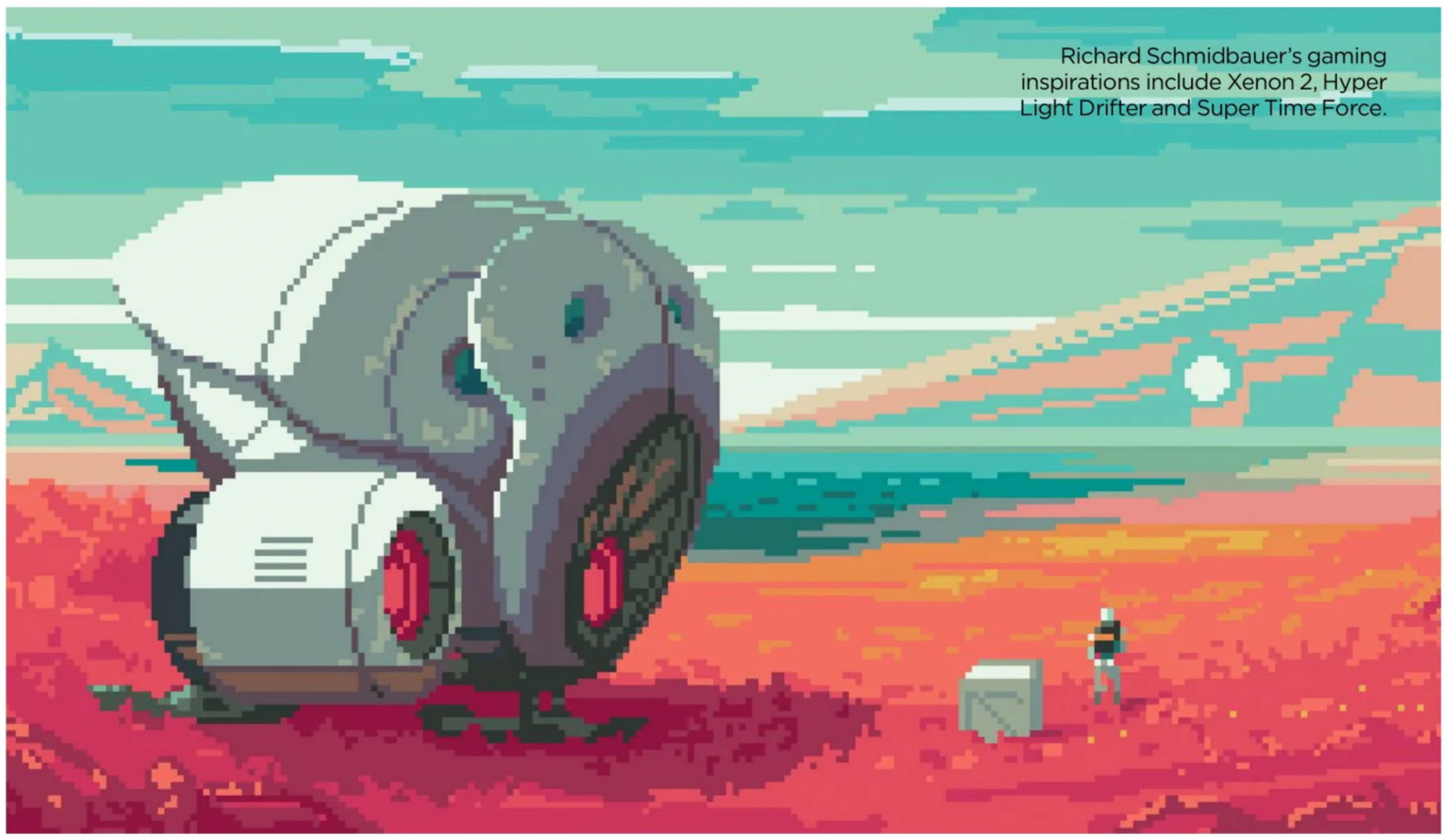
▶ Digic Motion started with 12 Vicon T160 cameras, before upgrading two years ago, with 24 more cameras and four Faceware GoPro HMCs.



Matej Jan started drawing on the ZX Spectrum in the early 90s, when pixel art was basically the only choice.

Power to the pixels

Dom Carter talks to the masters of pixel art and discovers that their distinctive work is more than just a retro aesthetic



Richard Schmidbauer's gaming inspirations include Xenon 2, Hyper Light Drifter and Super Time Force.

Nostalgia hits people in waves every few decades. When these waves break, we tend to see what we grew up with recycled by the media and sold back to us. In the case of pixel art however, a community of creators are producing images in the medium that go beyond mainstream acceptance.

Given that pixel art has strong connections to video games, a medium itself which hasn't been fully embraced as art yet, perhaps it's a natural fit for people with that independent, artistic sensibility.



Raymond Schlitter's pixel art often features contrasts, both visually and conceptually.



"Of course pixel art stems primarily from games," says graphic artist **Richard Schmidbauer**, who was first blown away by the pixel-based graphics in Blizzard's Blackthorne for the Commodore 64. "But it's really bled into other forms of art in the past few years. You tend to see it in videos, clothing and pop culture. It's become so popular because a lot of people who grew up with those games are now creating various things. So most people today are used to seeing pixel art as a medium of expression."

> **"Pixel art has bled into other forms of art in the past few years"**





Pixel artist and game designer **Raymond Schlitter**, AKA Slynyrd, has a deep-seated affinity to the aesthetic, having grown up in the 80s and 90s.

INDUSTRY INSIGHT

MATEJ JAN

The pixel art expert looks at the current state of the medium

Has pixel art been experiencing a renaissance recently?
It's grown in size, as well as proportionally, especially when you look at events like The Game Awards or Independent Games Festival. You have titles like Stardew Valley outselling AAA games, or The Last Night reported as one of the most beautiful things to come out of E3.

What can pixel art achieve that other mediums can't?
When a beginner and a master put down a pixel, the result is the same. No other medium can claim that. Yet while this makes it easy on a technical level, you still have to learn your art basics to have good lighting, colours, anatomy and composition. But in general, pixel art is very friendly to beginners.

Does pixel art put people off because of its games heritage?
It definitely alienates some. It's the same for other styles, such as comics/manga/anime. They all come out of the entertainment industry and it's hard to break the connection that they're just a by-product. You won't see them in traditional art galleries, but that's a problem for the outside world.

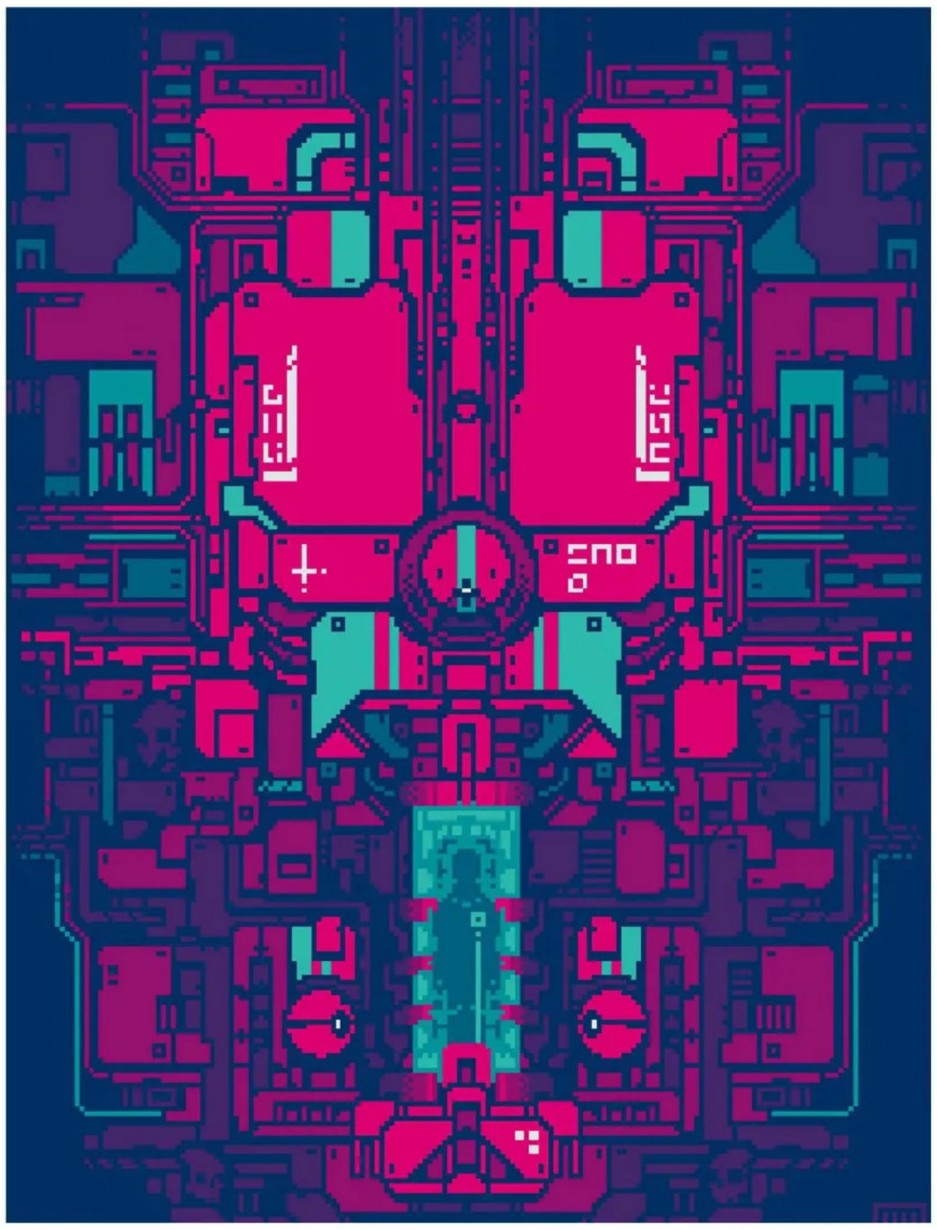
We just need to stop seeking external validation, and take ourselves as seriously as we want. When you grow up and start caring less about what others think of you, you can just enjoy doing what you love. As we start putting up our own art shows and comic-cons and esport events, the tables will turn.



Matej is a game development expert who runs Retronator, a daily news site dedicated to pixel art.

www.matejjan.com

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"At first it feels like it takes forever to make anything with pixel art," says Raymond. "But once you develop some proficiency you can generate art very quickly."

"I instantly felt at home with pixels," he says. "Part of it is fuelled by nostalgia, but I can also justify my passion objectively. Pixel art offers the control I demand, while its restrictions help funnel my rampant creativity in order to capture my visions efficiently."

PIXEL PRACTICALITIES



For **Matej Jan**, a pixel artist who also edits Retronator, a blog dedicated to the medium, the restrictions of pixel art makes it as distinct an art form as oil paintings or watercolours.

Richard creates his pixel art using Pro Motion NG and Aseprite. "Both programs are on Steam and really cheap."

"Pixel art is art first, pixels second," he says. "There's a layer of knowledge specific to pixel art, but you can see the artistic fundamentals at work underneath. If the foundation isn't there, then no amount of polish can save you."

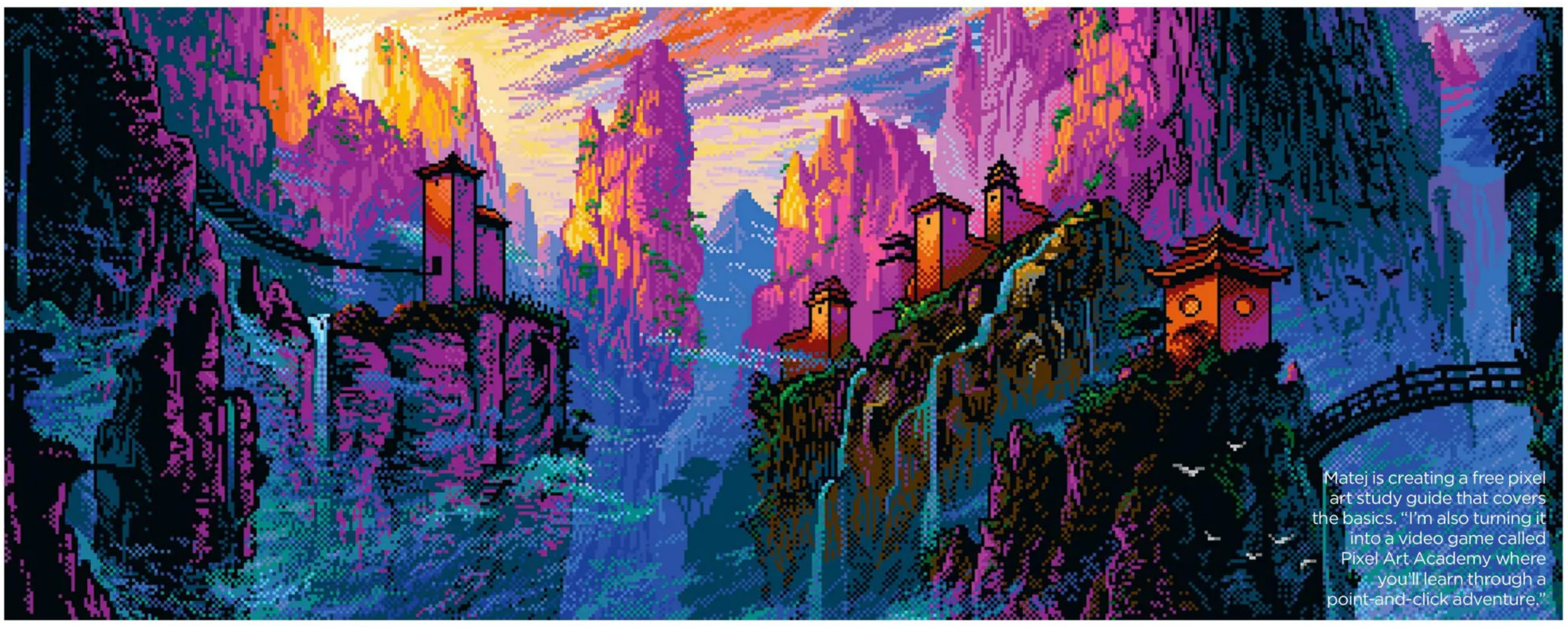
"The main constraints of pixel art would be the limitations in resolution and palette," says Richard. "You really have to work in a more impressionistic way. You have to try to describe a shape with the limited blocky space and colours, and still have it read well.

"However, the main constraints of the medium are also its biggest strength. You have to work within this frame, but you won't have to worry so much about other things. You can't add large amounts of detail and lose yourself in that because there's just not enough space. It leaves you more time to focus on the important parts, like composition. I find it really liberating."



For pixel artist **Jubilee**, the creation process is very soothing, "I started

"The restrictions of pixel art help funnel my creativity"



Matej is creating a free pixel art study guide that covers the basics. "I'm also turning it into a video game called Pixel Art Academy where you'll learn through a point-and-click adventure."



Jubilee explains that pixel art is perfect if you want to just dive in and get started. "Outside of a couple of art classes in high school I never had any real art experience."

doing pixel art as a hobby and found it calming to tap each little pixel into the image until you start to see something other then just little squares," she says. "I don't think there's any other medium that can give you such readable concise imagery on such a small scale."

As Matej points out, it's this lack of photorealism that adds artistic expression to pixel pictures. "Pixel art is a stylisation," he says. "When I look at [background pixel artist] Waneella's depictions of Japan, there's little factor of nostalgia. It's the same awe as I have for Ghost in the Shell's animated Hong Kong, or Into the Spider-Verse's 3D, post-processed New York City."

DO IT YOURSELF

For artists looking to take their first steps into the field of pixel art, the good news is that it's a very accessible and budget-friendly medium to pick up. "Pixel art can be created using pretty much any graphics software," explains Raymond. "This means that the price of entry almost nothing."

One of Matej's main inspirations were eBoy, "a trio of German digital artists who created fantastically rich isometric cities."



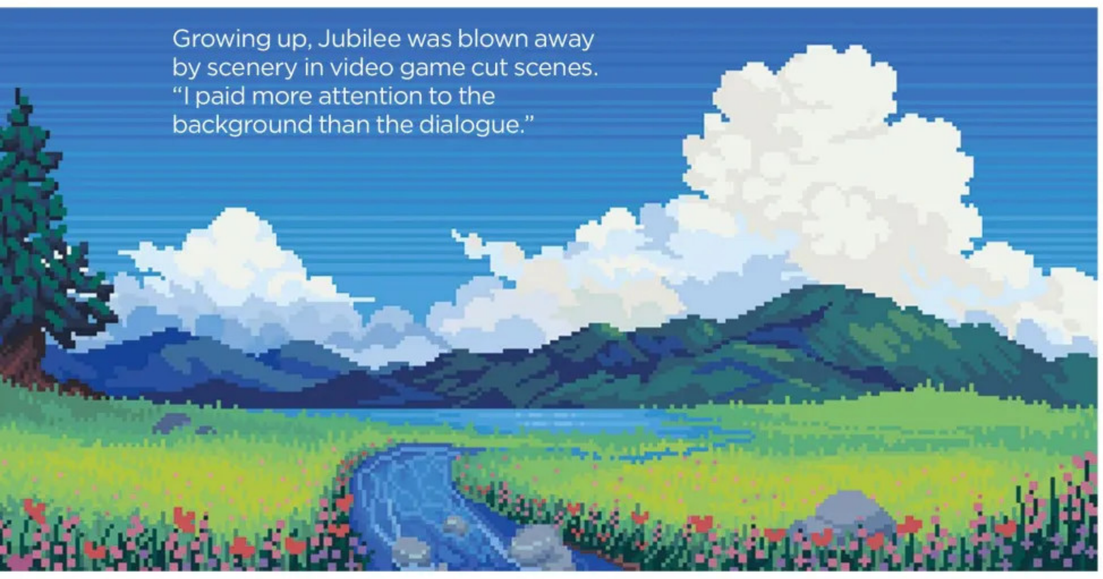
There are plenty of readily available online resources, including Raymond's Pixelcasts on his Slynyrd YouTube channel (**https://ifxm.ag/slynyrd**), help to demystify the process. "While making pixel art can be difficult to master, a beginner can learn to make serviceable art through self-guided observations," says the artist.

Thanks to its low data costs and small file sizes, pixel art is also easy to share online. "The low-spec parameters make it one of the most practical digital mediums," Raymond adds. "Once you develop some proficiency you can generate graphics very rapidly. The inherent uniformity of the pixel units enables you to easily recycle elements and use repetition to great effect. It's

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"With each scene, I want to show a glimpse of a story that seems to live beyond the borders of the canvas," says Raymond.



Growing up, Jubilee was blown away by scenery in video game cut scenes. "I paid more attention to the background than the dialogue."

almost like you're building an image rather than illustrating."

If you do feel like paying for actual pixel software, Richard estimates that you're only looking at forking out around $40 or thereabouts. "But even Photoshop works for pixel art," he adds.

"And before you get into building your own palettes, don't hesitate to try out famous and freely available palettes, such as Dawn Bringer 32. They are very good and fun to work with. It's one less step to worry about," advises Richard

BROAD APPEAL

The growth of the pixel art community means there are also plenty of creators to learn from. Take Matej's Retronator blog (**www.retronator.com**), which started life as his personal art Tumblr back in 2010. Today he estimates that it attracts 30,000 readers who are keen to see what's going on in the

Sometimes, Richard likes to add stylisations in Photoshop. "I like to keep the source files clean and have a separate Photoshop file for that stuff."

> "It's almost like you're building an image rather than illustrating"

pixel art scene. "And that's still small compared to some individual pixel artists, who have 100,000 followers and more," he says. "There are a lot of people who love pixel art."

This increased popularity of pixel art has also benefited the image of the medium, which in the past has sometimes found itself hamstrung by its connection to video games. "With so many talented artists using the medium to make non-game-related pieces these days, pixel art seems to be turning some new heads," says Raymond.

"While most of my commission requests come from game-related projects, an increasing number of my clients come from unexpected places. I've done work for hip-hop, soul and rock musicians. I've even been approached by people in the fitness industry."

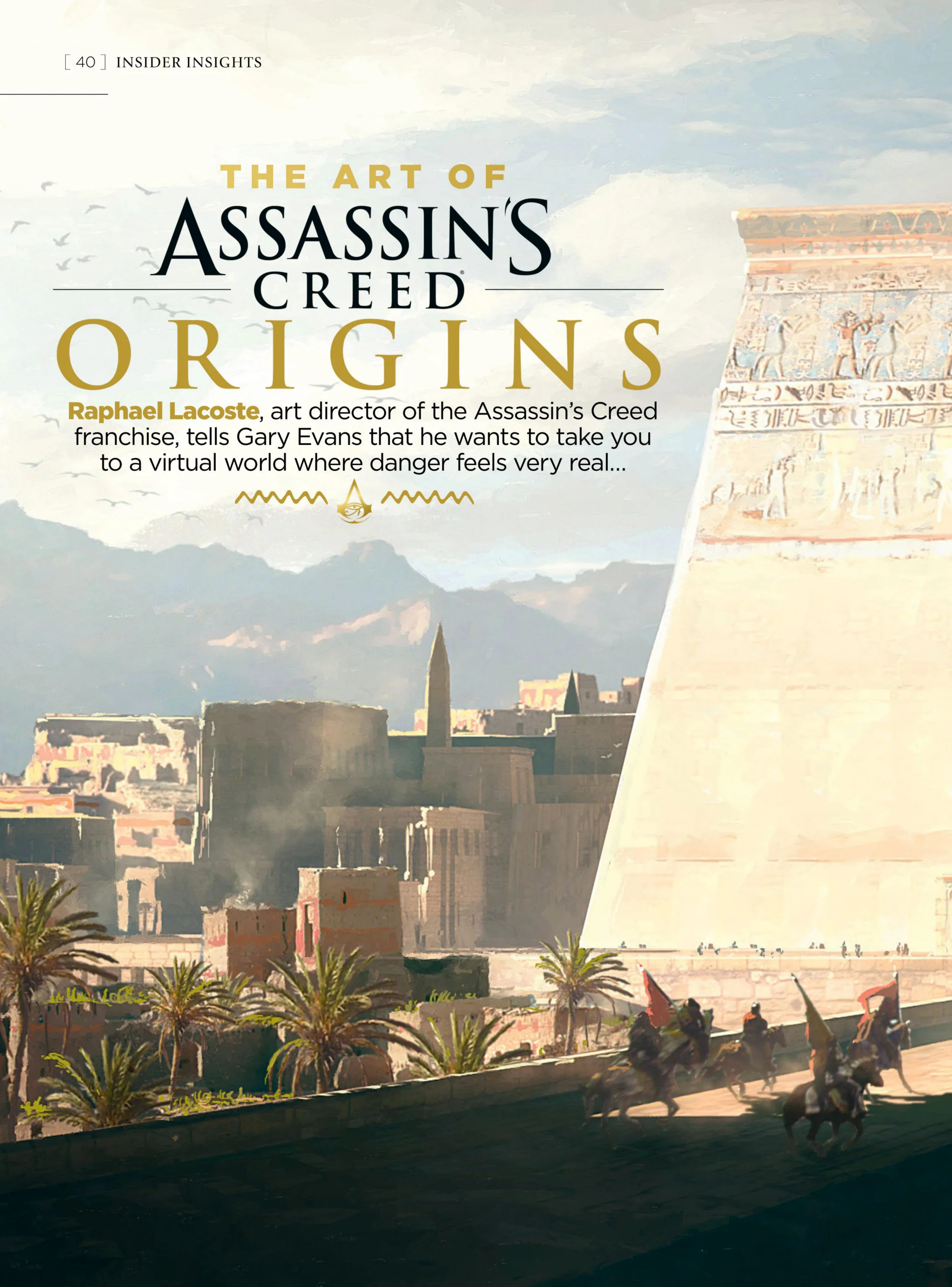
Jubilee agrees that it's an exciting time for the medium. "Each day, more and more artists are pushing the boundaries of what pixel art is, and it's awesome! I hope it becomes even more popular, because it's been nothing but positive for me."



"I'd dare say that everyone apart from millennials got lured into pixel art by nostalgia," says Matej.

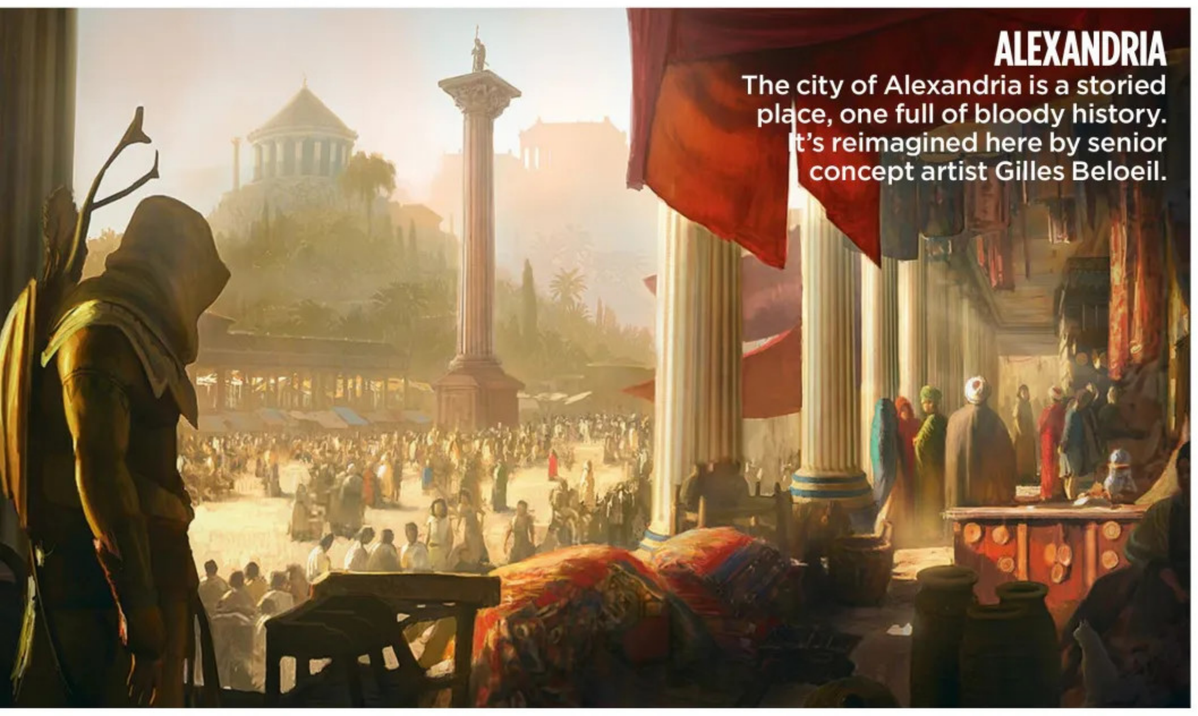
THE ART OF ASSASSIN'S CREED® ORIGINS

Raphael Lacoste, art director of the Assassin's Creed franchise, tells Gary Evans that he wants to take you to a virtual world where danger feels very real...





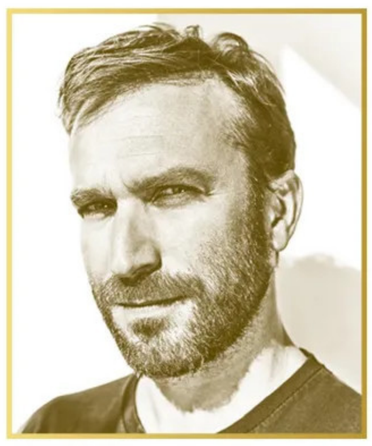
THEBES ENTRANCE
Assassin's Creed Origins is set in the ancient Egyptian empire. Franchise art director Raphael Lacoste shows the entrance to the city of Thebes. »



ALEXANDRIA
The city of Alexandria is a storied place, one full of bloody history. It's reimagined here by senior concept artist Gilles Beloeil.



SPECTACULAR STREETS
Martin Deschambault, senior concept artist, takes us into the past and through the spectacular streets of the Egyptian city of Alexandria.

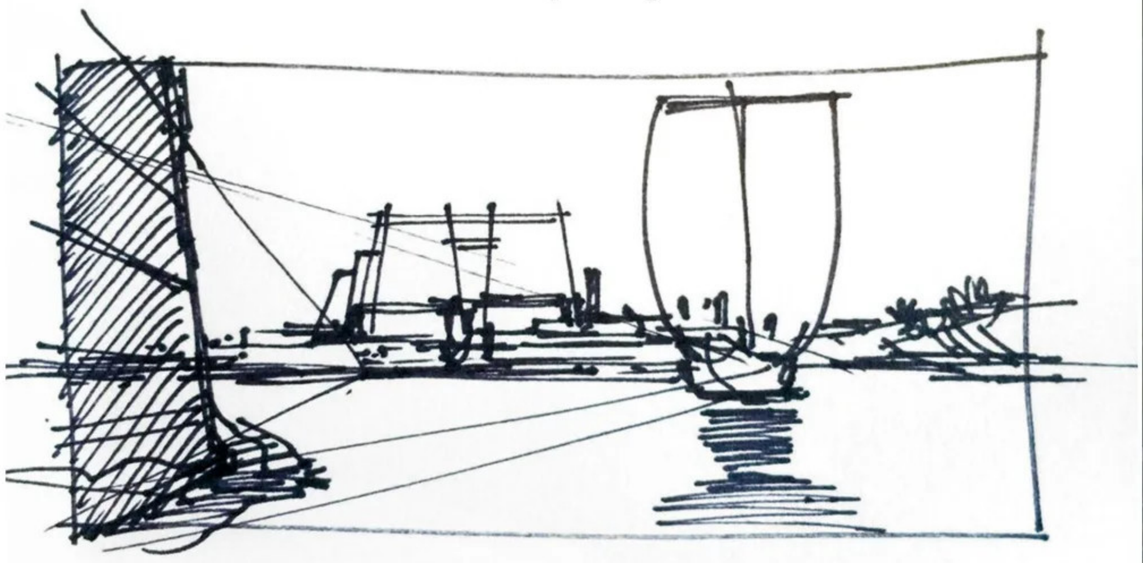


Watch a film and you're an observer. But play a game and you're a participant. For Raphael Lacoste, art director of Ubisoft's hugely popular Assassin's Creed franchise, this is an important distinction. Growing up in the 80s, Raphael played games like Pitfall, Another World and Rick Dangerous, a platformer inspired by Indiana Jones. But even then, Raphael looked past point-scoring, beating the boss and completing the levels. He was interested in the story.

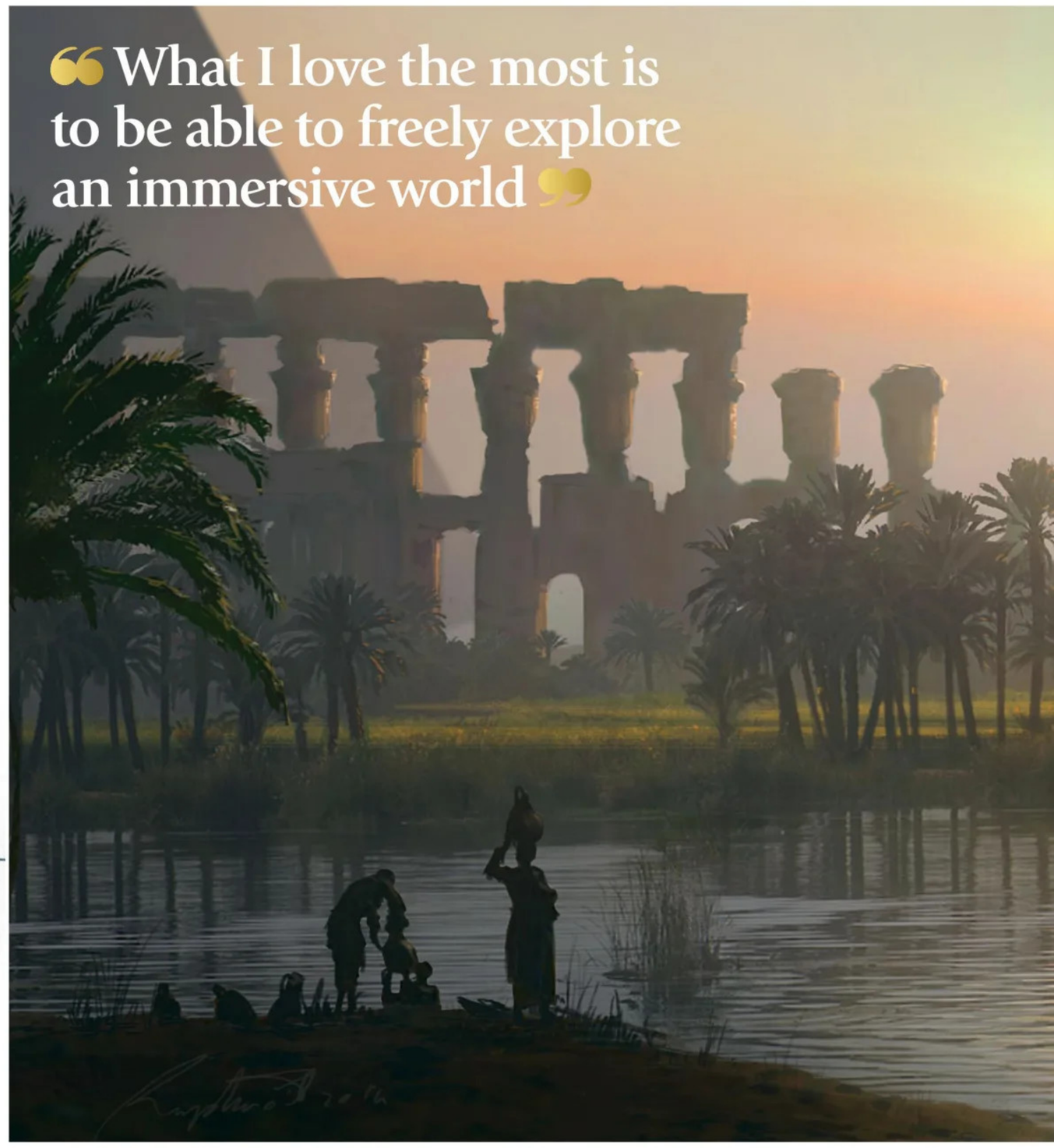
"It's funny to remember that visual quality at this time wasn't a big issue," the Frenchman says, "because our imagination was taking over. The rendering was really abstract, but the experience was still immersive."

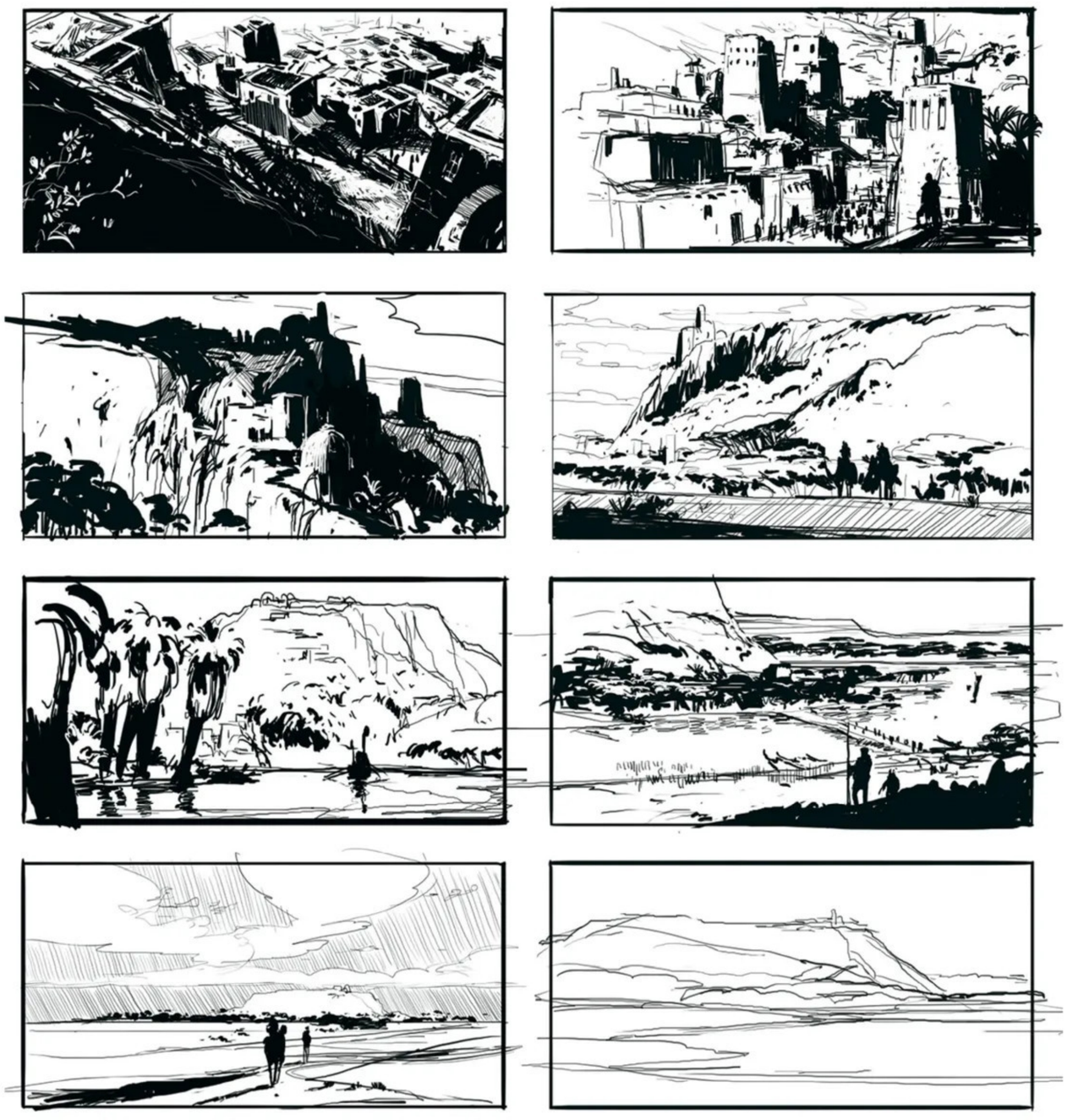
Later on, Tomb Raider – the boss level in particular – scared him. Playing Omikron: The Nomad Soul and Abe's Oddysee changed something in the young man. Again, he felt "immersed in the game experience."

Raphael says: "If you watch a movie then you're moved and transported by the characters and their story – you enter their world – but for the most part you receive information. You're just a spectator. In



A VIOLENT PAST
In the pre-production stage, Raphael and his team are looking for an "interesting" moment in history. And by interesting, they mean violent and duplicitous.





STORYBOARDING
Martin Deschambault works up a storyboard, as the team attempts to transform a good idea into a great game.



BAYEK
Senior art designer Vincent Gaigneux worked on lead character Bayek, a member of the Medjay. This was a powerful priesthood and elite paramilitary police force in ancient Egypt.



GREAT PYRAMIDS
No game set in ancient Egypt would be complete without the Great Pyramids, seen here in silhouette in Raphael Lacoste's artwork.

contrast, playing games makes you more proactive and gives you that feeling that you are playing your own story.

"If you're putting yourself in danger, you can feel this stress. You escape, hide and find your own strategy. What I love the most about games is to be able to freely explore an immersive world, through the vector of the hero that you occupy. Video games can literally take you into another dimension."

WHY RECREATE REALITY?

At school, Raphael was never much of a student. "Instructions were never, and still aren't, part of my priorities." He preferred to stare out of the window, wander about outside, or draw. Yet even

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BAYEK FACING THE BRIGHT WALL

In this piece for Assassin's Creed Origins, Raphael wanted to create a simple, graphically composed image that represents "a moment of exploration" in the mountains of Egypt

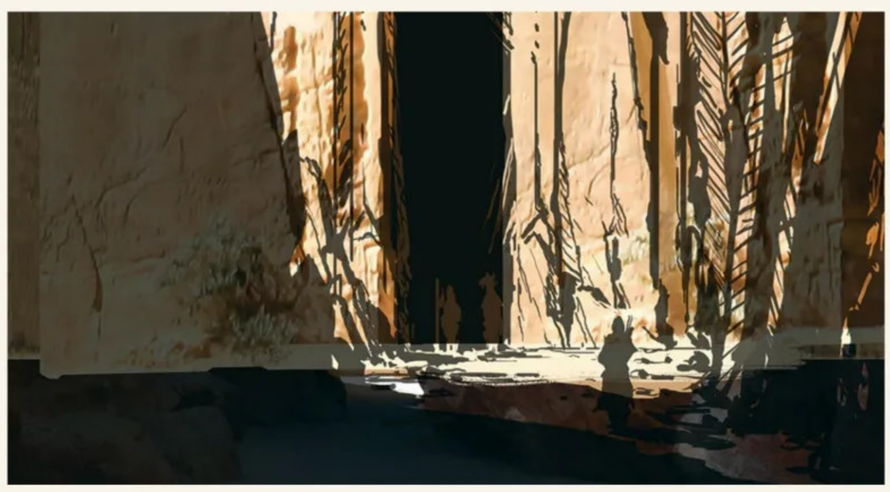
1 Light and shadow

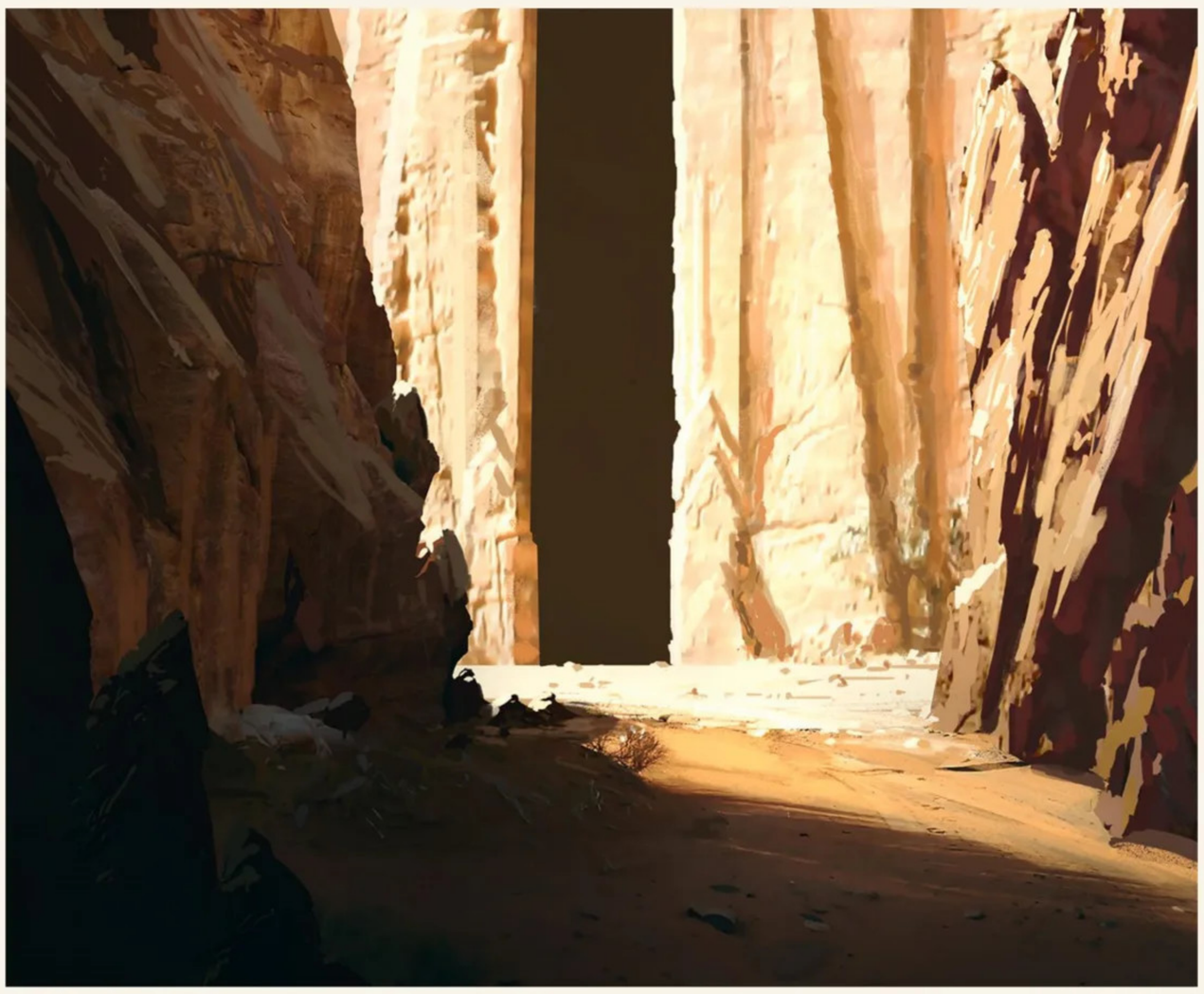
I start with a black and white composition, defining the overall light direction but also the simple, vertical shape of the door. I want to have two guards in the entrance of the temple, with Bayek facing the bright wall. The strong light on the wall creates an interesting contrast with the hero standing in the shade.



2 Graphical composition

I set a new layer to Multiply mode to keep an eye on my original concept, and then start to add textures and colours, while maintaining my original graphical composition. I gradually reduce the Opacity of the sketch, which enables me to work on the values, shading and details.





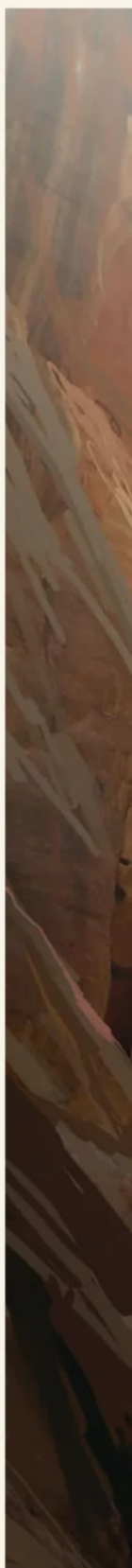
3 The painting

I get rid of the original sketch and focus on the painting. I want to use a simple colour palette for the overall mood and saturation in the indirect lighting and shadows, even if the overall mood looks pretty monochromatic. I like the values in the shade and the local colours of the sandstone.



4 Adding figures to the painting

I bring the characters back in and polish some of the details. I don't use many textures because I want this image to look more painterly and graphical. I really enjoy painting light, even if sometimes I use 3D assets to help with the perspective and lighting direction. In this case the composition was organic enough to preclude the need for any CG rendering.





5 Adjustments and adding atmosphere

I make some minor tweaks to boost the atmosphere. This is the stage when I carry out colour balancing and saturation edits. I work on light diffusion, helping to further define the sunlight's direction. The final painting retains the original aim of the initial sketch, but brings this location to life with the overall mood, colour and storytelling elements.



HETEPI
Hetepi, a priest, by Jeff Simpson. The character's mask represent the Egyptian god Anubis, who's associated with the afterlife.

"Why recreate reality? I love to reconstruct reality and create new environments"

then, he wasn't interested in copying the world around him. Instead, he wanted to create brand new worlds.

"Why recreate reality? It surrounds us. It's sometimes beautiful, sometimes disturbing. Reality can drive us to feel complex emotions and have deep thoughts. But I love to reconstruct reality in order to create new environments that push us to wonder, and allow us to escape reality.

"I like to blend cultures and landscapes, often exotic ones, to create something new, something different. What could an Icelandic landscape combined with the architecture of the ancient city of Petra look like? Or imaginary castles that defy gravity on a background of exaggerated Norwegian mountain peaks? My objective is to create fantastic worlds of what could have been."

CREATIVE UPBRINGING

Raphael studied at Bordeaux's School of Fine Arts and Decorative Arts, and worked as a photographer and set designer at a theatre company. He enjoyed the work, but it didn't pay much. In 1997, his dad – who also played games with Raphael and taught him photography – bought him a »

“Research is our homework. It’s the most creative time artistically, and also a quiet period”



PLANTATIONS

▲ The franchise has never shied away from history’s darkest moments. This is one of Gilles Beloeil’s concepts for sugar plantations.

HUNTRESS

◀ Character design by concept artist Jeff Simpson. The team was encouraged to experiment with new ideas in the early stages of production.



AYA
In Origins, you take on the role of Bayek and his wife Aya, seen in this concept by Vincent Gaigneux.



WHITE DESERT
Raphael Lacoste conveys how hot, vast and unforgiving the White Desert is – one of Origin's new settings.



MEMPHIS
Memphis, as painted by Martin Deschambault. The city was the capital of Egypt during the third millennium, a time known as the Old Kingdom, or the Age of the Pyramids.

computer. He learned 3ds Max, created his first demo piece, and built up a portfolio. He received a diploma from what's now called the ENJMIN Institute of Game Design, then secured a job as an environment designer at the French developer, Kalisto Entertainment.

Kalisto went bankrupt in 2002, but then Ubisoft called and Raphael took the company up on its offer. He moved to Montreal, Canada, and became an art director at the games publisher. Raphael now works as the brand art director on the Assassin's Creed franchise. In October 2017, Ubisoft released the tenth instalment: Assassin's Creed Origins.

Raphael's job changes as a game goes through its many development stages. At first, he and the team focus on research, doing their "homework": lots of concept art, sketching, drawing and painting. "It's the most creative time, artistically," says Raphael, "and also a quiet period."

The team explores specific time periods and locations. They try to find "an interesting pivotal moment of history." It has to be something exciting, with a bit of mystery to it, an "inspirational playground" for both player and developer.

Once that's in place, they define some set pieces, work up illustrations to "sell" the chosen world and characters, and then start thinking about a hero. These first month are full of creative freedom. Anything could happen. The game could go anywhere. Raphael finds the blank page both stressful and thrilling. He's happy to try things, let them fail, then

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“NOBODY WANTS TO BE AN ART DIRECTOR”

Raphael says young artists shouldn’t be thinking about going into art direction – especially if they think that it’s a glamorous job

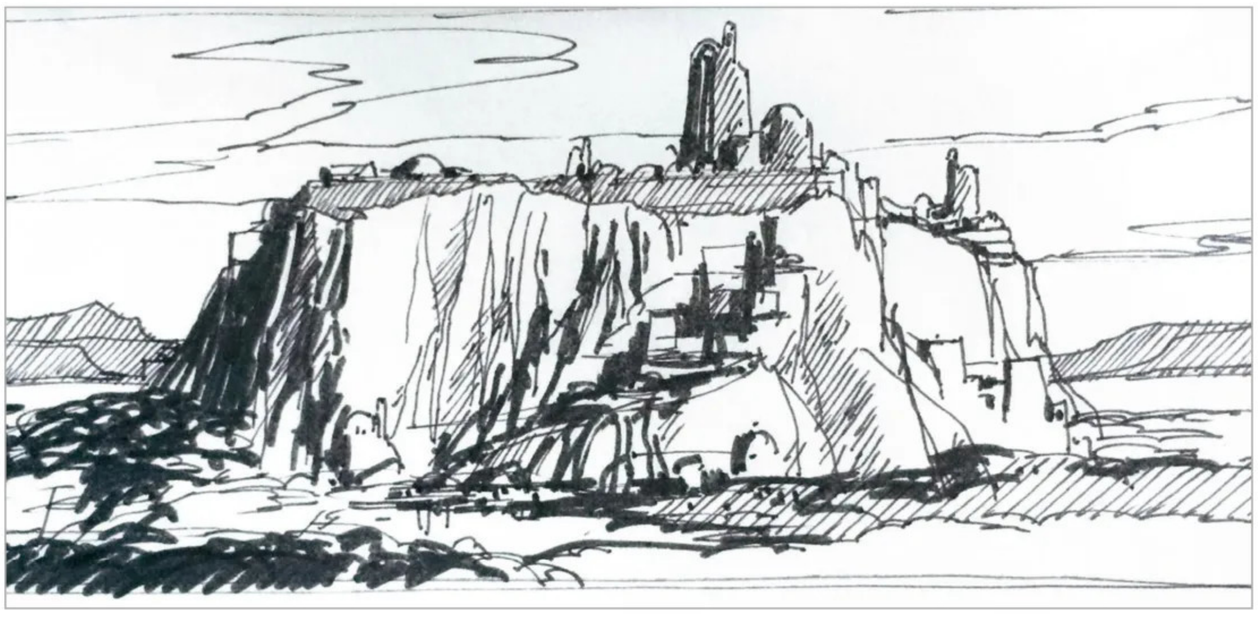
“Don’t try to be an art director straight after school. You become a director after years of experience, after knowing what it’s like to get your hands dirty.

It’s a hard job and takes not only experience but also a knowledge of studio production. There’s also the important human factor. The skills needed are more personal and artistic than technical, but it also takes also some technical knowledge to be able to understand all the challenges involved, and to communicate effectively with the technical directors.

Usually, if someone wants to join the team, they need to be interested in the game and have excellent skills in environment design, composition and storytelling. A good art director can communicate their vision through words. A great art director can not only communicate their vision through words, but also through their own art.”

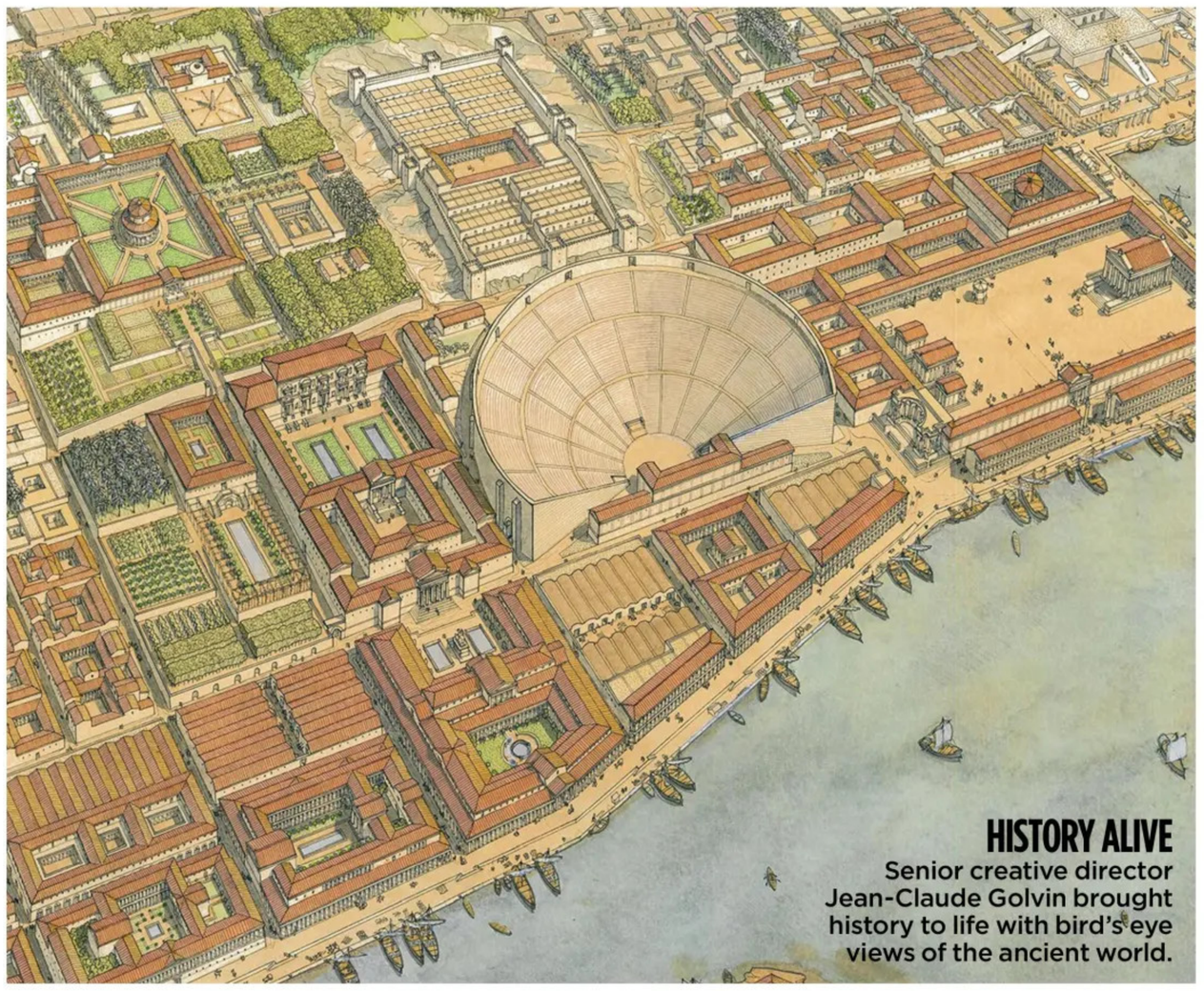


DEVIL IN THE DETAIL
The team enlisted historians and Egyptologists for help. Their attention to detail seen in characters like Hetepi, painted here by Jeff Simpson.

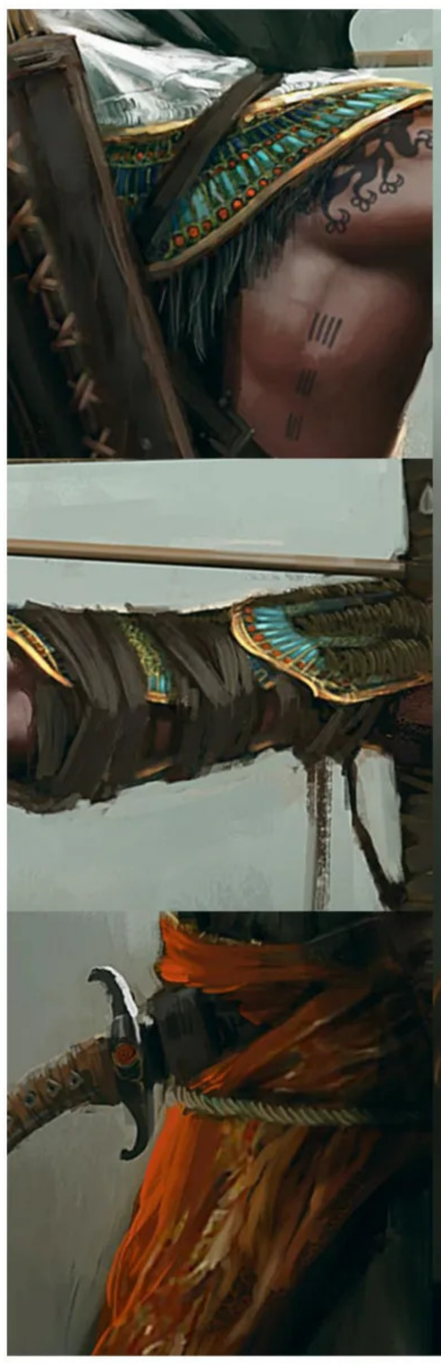


AUTHENTICITY
Critics have praised Assassin’s Creed Origins’ historical authenticity, something Raphael and his team paid particular attention to.





HISTORY ALIVE
Senior creative director Jean-Claude Golvin brought history to life with bird's eye views of the ancient world.





FIRST SIGHT OF ALEXANDRIA
Deschambault goes big in this piece of concept art, showing us the epic view as we ride into Alexandria.

ICONIC POSE
Deschambault's Bayek strikes an iconic pose. In Origins, the character meets historical figures like Cleopatra and Julius Caesar.

begin again. But at some point, the game must become something real. They need to have a setting, artwork and a gameplay prototype in place to sell the idea to headquarters.

The team throws in the overall game and level design with the story and art to make the first playable version of the game. "This is where fights can happen," Raphael explains. "It is both a challenging and crucial period. I spend more time in meetings than working with the illustrators."

Now Raphael goes from team to team and makes sure that the "original benchmarks and visual standard" are followed throughout. To join his team, you need a good mix of skills: "They need to have interest in the game and have excellent skills in environment design and composition, but also storytelling. Our levels are complex to create as they blend historical context, fantasy, gameplay interactivity, and need to be epic and memorable."

DEPARTING – AND RETURNING

In February 2007, Raphael finished work on the first Assassin's Creed and decided to leave the game's industry.

"Our levels are complex to create, and need to be epic and memorable"

"I felt that I needed new challenges," he says, "I wanted to learn new things."

He went to work at visual effects firm Rodeo FX, a small company at that time, creating matte paintings and concept art for films such as Death Race, Terminator Salvation, and Journey to the Center of the Earth.

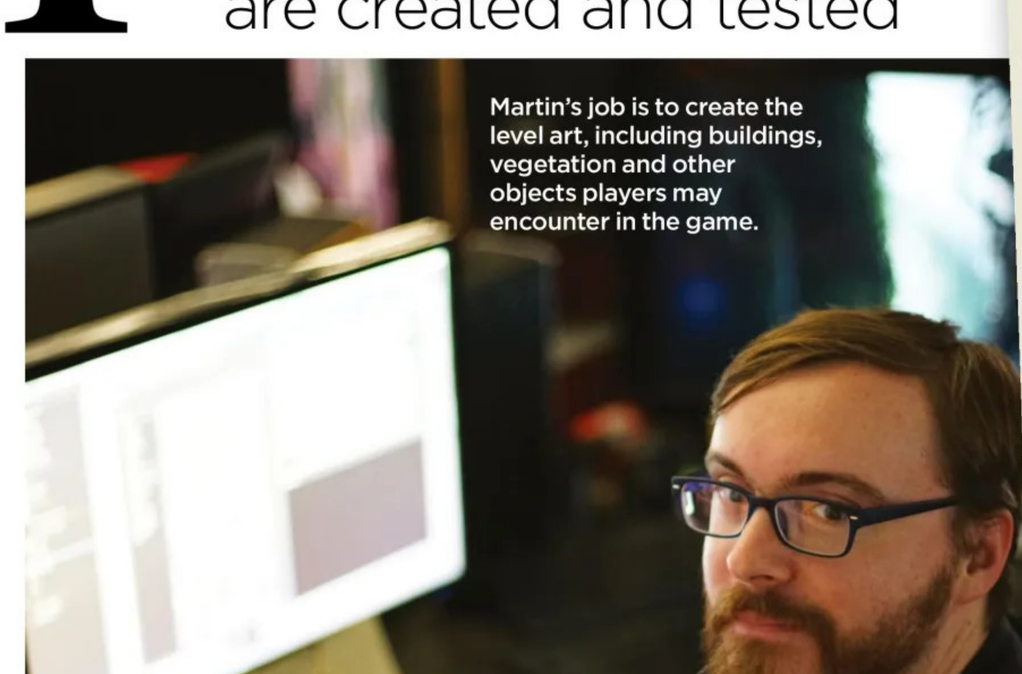
"The film industry is older than the video game industry," says Raphael. "I learned a lot at Rodeo, like mastering image composition, rendering, technical skills in Photoshop and even working in 3D software. I still use what I learned there now. But I felt that my job as a matte painter for film was a little too technical, less creative."

And it was creativity that ultimately won. You watch a movie, but you play a game: "So I decided to come back."

DAY IN THE LIFE OF AN ENVIRONMENT ARTIST

How the lush and immersive environments in modern video games are created and tested




Martin's job is to create the level art, including buildings, vegetation and other objects players may encounter in the game.

Naughty Dog are one of the best-known video game developers in the world. Creators of critically acclaimed titles including Crash Bandicoot, Jak & Daxter, Uncharted and The Last Of Us – the company's portfolio of games is renowned not just for their iconic characters and engaging storytelling, but for its aesthetic quality as well.

Martin Teichmann is an environment artist at Naughty Dog, and was part of the team that designed the levels in the best-selling and multi-award-winning Uncharted 4: A Thief's End. Martin modelled the buildings, vegetation and objects in many of the game's environments, helping transform them from concept artwork to captivating, interactive landscapes.

Here, Martin walks us through a day during an important part of the development process: the play test. This is where testers will put Martin's level through its paces.

GETTING READY FOR THE TEST

9.30am

My role is to create the shapes of buildings, objects, vegetation and other details. We edit levels using Maya computer animation and modelling software. Today is the day of the play test, so I make some final tweaks to my level design to make sure it's playable. The last thing I want is the testers getting stuck within the level or the gameplay mechanics not working as they should.

SUBMITTING THE LEVEL

11am

When I'm finished with the changes, the level is given to the testers. I receive an email saying that it is now locked and from then on I'm unable to submit any more changes. If I tried to work on it while the testers were playing through, it could break the level. I'll then watch the play test as it's happening.

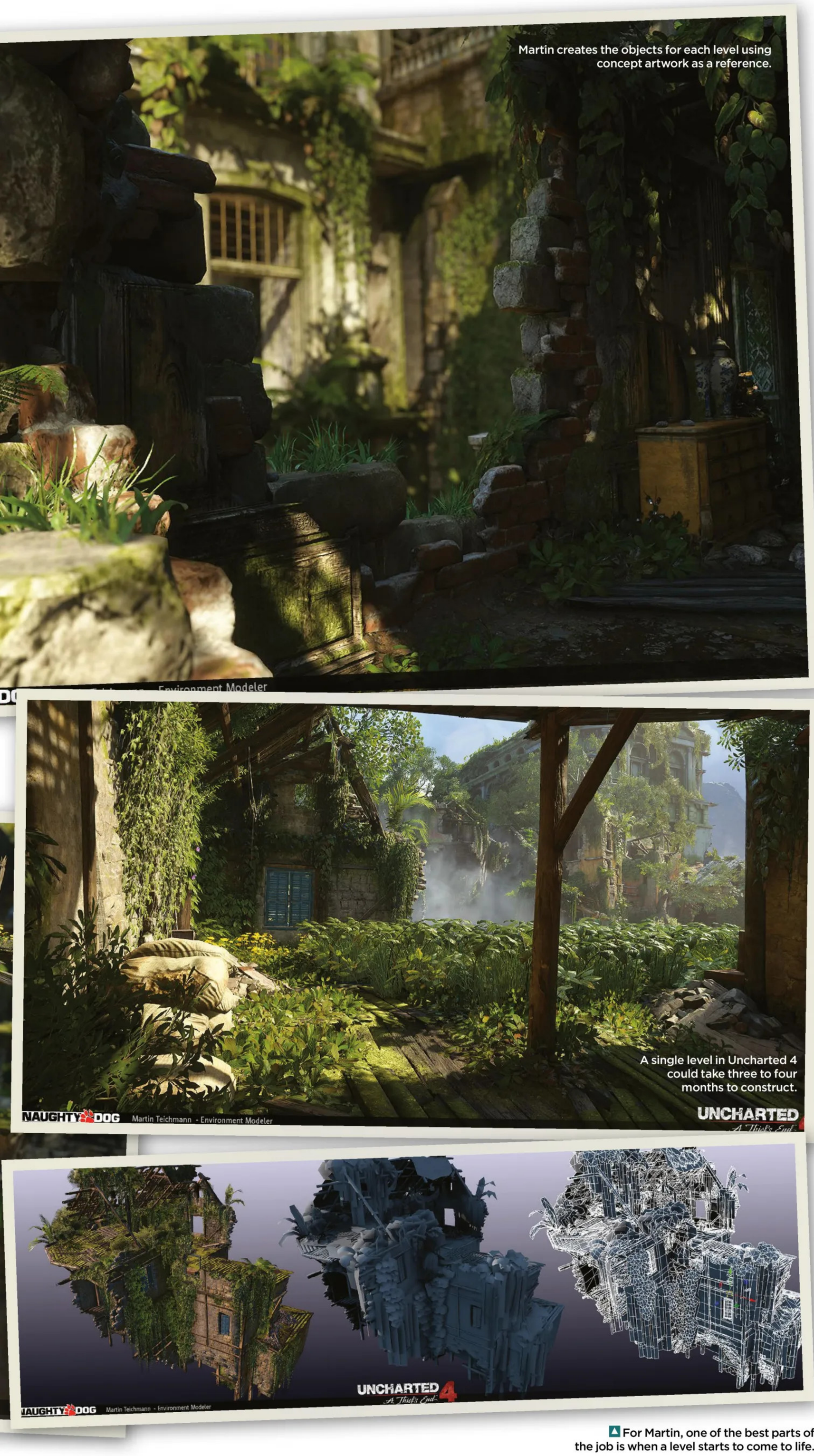
THE PLAY TEST BEGINS

12pm

Play tests are really important, as you've been looking at this level for



Uncharted 4 sold over 2.7 million copies in its first week.



For Martin, one of the best parts of the job is when a level starts to come to life.

months so you know it so well, but you can never tell how it really plays. We need to make sure everything works as it should. I'm always curious to hear their feedback. You learn a lot about your environment when it's played through by someone else. For example, if the testers get stuck a lot, I may need to consider making certain aspects of the level more obvious.

END OF THE TEST

2pm

When the play test is over, I'll be asked to make certain changes and adjustments to the level. They can be collision mechanics, more ledges to hang from, extra hand grips for climbing, additional cover objects the player can hide behind, that sort of stuff. The challenge is to keep the gameplay working how the testers and the designers want it, yet still making it as pretty as possible.

LITTLE TWEAKS

3pm

When changes are being made, I have to make sure they don't interfere with the gameplay mechanics or other aspects of design. For this level, I had a wardrobe I needed to put in and I had to look around for ages to find where I could place it, but later a designer mentioned that it was blocking another bit of the scenery that they had included. That is the most challenging part of the process, I feel.

FINISHING TOUCHES

6pm

Game tests are going on almost constantly until the very end of production. People play the level differently, so you get varied feedback and suggestions for changes. I can open up areas and make them accessible if they weren't before, add or remove vegetation and rubble, and if more objects are needed, I can outsource the creation of particular props to an external artist to work on.

© Naughty Dog/ Artstation, Martin Teichmann

STUDIO PROFILE

CD PROJEKT RED

The Polish studio behind The Witcher series tells **Tom May** about its move to sci-fi and why it's the fans that matter

CD Projekt Red is the Polish games studio that's best known for The Witcher series of fantasy role-playing games, based on the monster hunter series of novels by Andrzej Sapkowski. It's also moving into the world of sci-fi in the form of Cyberpunk 2077, an open-world role-playing game based on the Cyberpunk 2020 tabletop role-playing game system that's due for release in April 2020.

With all this creative activity, a wide variety of artists are needed at the Warsaw-based firm, says character art director **Paweł Mielniczuk**. "Our artists' specialities range from concept design, to organic and hard surface



All images © CD Projekt Red

"We've had three games and two expansions to perfect Geralt as a character," says Michał Stec, on the protagonist from The Witcher series.

◂ A dramatic moment from Cyberpunk 2077. Paweł Mielniczuk says that, "If I were to describe our visual style, it would probably be 'extremely detailed'."

◂ An ice giant from The Witcher 3. "We put a lot of love and hard work into our characters," says Paweł. »



Hey look, that's us! Issue 103 of ImagineFX (The Witcher 3 cover) sits proudly on the wall in the studio's reception area.



Yennefer from The Witcher 3. "Sometimes, ideas are instant; in other cases, they require multiple iterations and people," says Paweł.



Concept art from Cyberpunk 2077. "We have one goal in mind," says Paweł. "Make the best RPGs ever created."

modelling, to level design, to cinematic and gameplay animation, to promo and DTP art," he says.

At time of writing, the team is working on designing and delivering all characters, weapons and vehicles for Cyberpunk 2077. "Characters are mostly painted and photobashed, weapon design mixes 2D and 3D art, while vehicles are designed entirely in 3D from the very beginning," explains Paweł. "Designs are then forwarded to character, weapon or vehicle artists to be further defined and polished during the modelling stages."

> **"Designs are forwarded to character, weapon or vehicle artists for further polishing"**

WIDE SPECTRUM OF COLOURS

Artists work across a range of visuals styles, but one common characteristic is a strong focus on colour. "In both The Witcher's dark fantasy setting and the dystopian world of Cyberpunk 2077, we believe the spectrum of colours should be just as wide as our characters' spectrum of grey morality," says Paweł. The studio also takes pains to get the look of its characters right. "Until we create a character that we truly love, we keep working on them," he stresses. "When it comes to character designs, we never have deadlines."

While many of CD Projekt Red's artists have been around for a long time, they can't rest on their laurels – particularly at the moment. "The transition from making games in the Witcher universe to Cyberpunk 2077 has been one of the biggest challenges I as a producer and we as a studio have faced," explains lead content producer **Michał Stec**.



"Changing the setting from medieval dark fantasy to futuristic sci-fi, shifting perspective from third-person to first-person,

Studio PROFILE

CD Projekt Red
LOCATION: Warsaw, Poland
PROJECTS: The Witcher series, Gwent, Thronebreaker, Cyberpunk 2077
WEB: https://en.cdprojektred.com



"Cyberpunk 2077 might have been our biggest challenge since making the first Witcher game," says Michał.





Foglings get on the wrong side of Geralt, in The Witcher 3. "We put passion into every nook and cranny of our game worlds," says Paweł on the work ethic of CD Projekt Red.

"I like to think of the studio as a big family," says Agnieszka Momot. "The mood here is always so great!"

AGNIESZKA MOMOT

The graphic designer on what her job entails...

How long have you been at CD Projekt Red?
I first joined as an intern in 2013. Games have always been a passion of mine and I'd played all of The Witcher games to date, so working here felt like a dream come true. I then worked for another company for about two years, before returning in 2016 as a fully fledged graphic designer for the marketing department.

What's the work like?
It's engaging and creative – whether I'm creating promo assets for our games, designing gadgets and goodies, or working on Esports-related stuff.

What kind of design work have you been up to lately?
Recently, I've had the pleasure of designing ad campaign visuals for Thronebreaker. Also, Gwent's launch involved a huge redesign to make its visuals match the dark and brutal tone of the Witcher world. Shifting our approach was quite a challenge, but a satisfying one.

What have been some memorable moments?
One was having a hand in designing The Witcher 10th Anniversary Geralt pin. Creating a gadget for such a momentous occasion was a big deal and a privilege. I'm also very happy with the work I did on the visual identity of GWENT Masters, the game's Esports series. Keeping things consistent, but at the same time distinct for all tournaments of the series, as well as trying to capture the essence of The Witcher Card Game, wasn't easy!



Previously at Comperia.pl S.A., Agnieszka is now a member of the marketing department at CD Projekt Red.

en.cdprojektred.com

»



Imlerith, one of the bosses from The Witcher 3. "Whatever we're working on, we're determined to give it our all," says Michał.



Hjalmar an Craite, one of the NPCs from The Witcher 3. "We want to match characters' emotions to their faces and outfits," explains Paweł.



"We ventured into uncharted territory with Cyberpunk 2077," says Michał, on the studio's move away from fantasy-themed projects.



Michał reveals that, "Cyberpunk 2077 has been scary, but also very exciting at the same time."

Geralt and Ceri from The Witcher 3. "It's very important that we create all of our main characters in-house," says Paweł.

"Until we create a character that we truly love, we keep working on them"



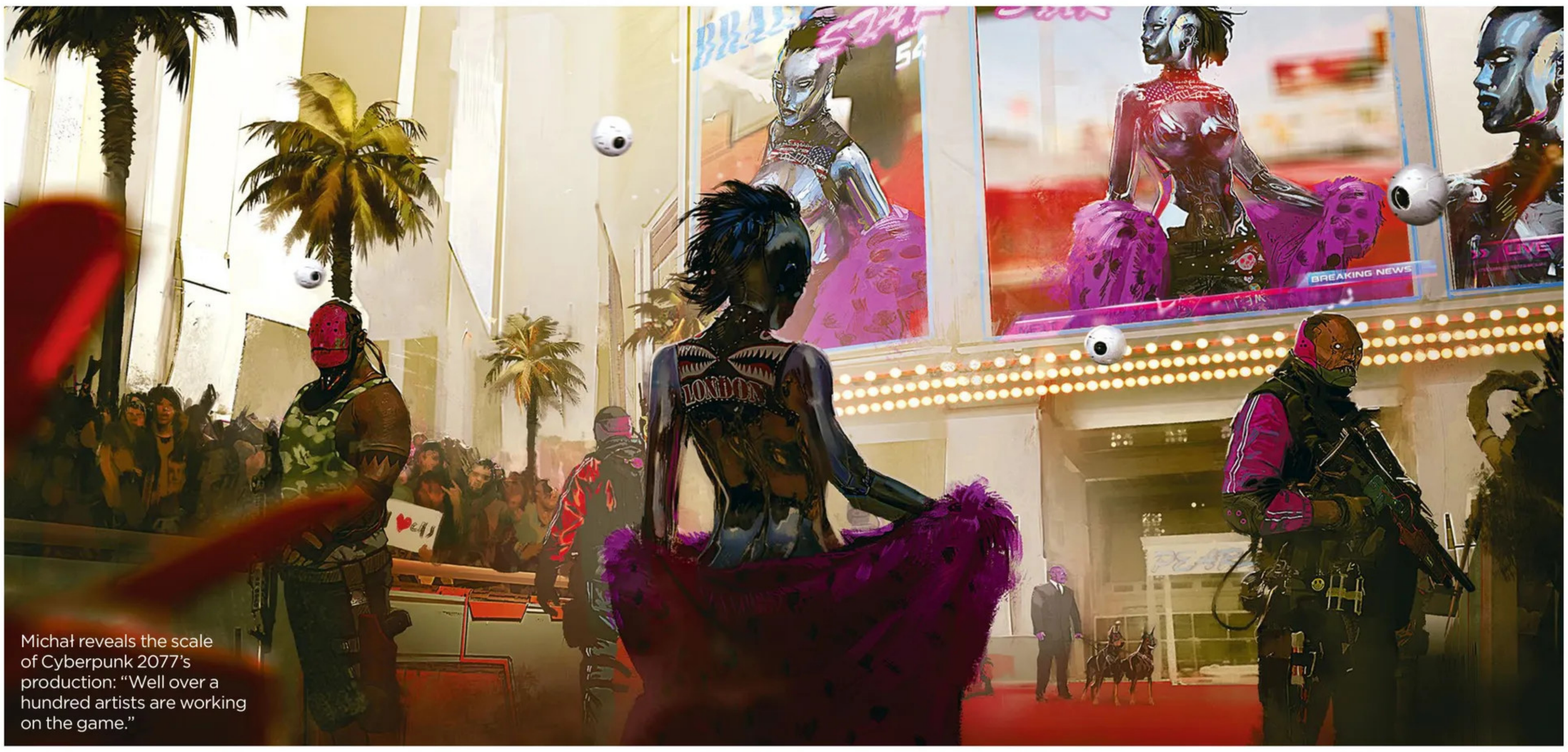
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Interested in joining the studio? Paweł says that, "We have open positions for concept designers, character artists, environment artists and animators."



Ciri in action, in art created for Gwent. "Our artists know the game, its history and characteristics; they live and breathe it daily," says Paweł.



Michał reveals the scale of Cyberpunk 2077's production: "Well over a hundred artists are working on the game."

giving players the ability to shape their own character rather than using an already defined one… in many ways, this has required us to rethink our approach toward making games."

One thing that helps the studio meet these challenges is its democratic approach to ideas-sharing, Michał adds. "It doesn't matter how long you've been at the studio or what position you hold – if you have an idea and want to share it, you can, and people will listen," he says. "And if the idea is really good, it may very well end up in the game and make it better."

Illustrator/illustration coordinator



Bogna Gawronska describes the atmosphere at the studio as: "Friendly, constantly motivating, with a pinch of creative chaos and a huge dose of fun. The studio is made up of loads of talented, hardworking people and I think you can feel it being here."

> **"If you have an idea and want to share it, you can, and people will listen"**

DEALING A NEW HAND

Right now, the biggest part of Bogna's daily work is creating art for Thronebreaker, which recently launched on PC. It's a spin-off RPG that blends The Witcher's in-fiction collectible card game, called Gwent, with an isometric RPG. "It was a challenge and a real blast to be able to work on both projects, as both a card illustrator, and one of the artists creating the redesigned look of the board for Gwent," she explains. "It was really cool to see my work and the work of my colleagues come together in such a short amount of time – from prototypes and concepts, to animated, almost living environments featuring fully 3D, realistic characters."



"Knowing that this is your game you're working on is tremendously empowering," says Michał.

Bogna uses a Wacom tablet with Photoshop for painting, and an iPad with Procreate for sketching. "I also do some 3D work; when I do, it's mostly Blender, but not exclusively." But whatever project she works on, her biggest sense of satisfaction comes from feedback from the public. "I have one of





Concept art from Cyberpunk 2077. "We try to give our artists the time they need to develop their creative vision," says Michał.

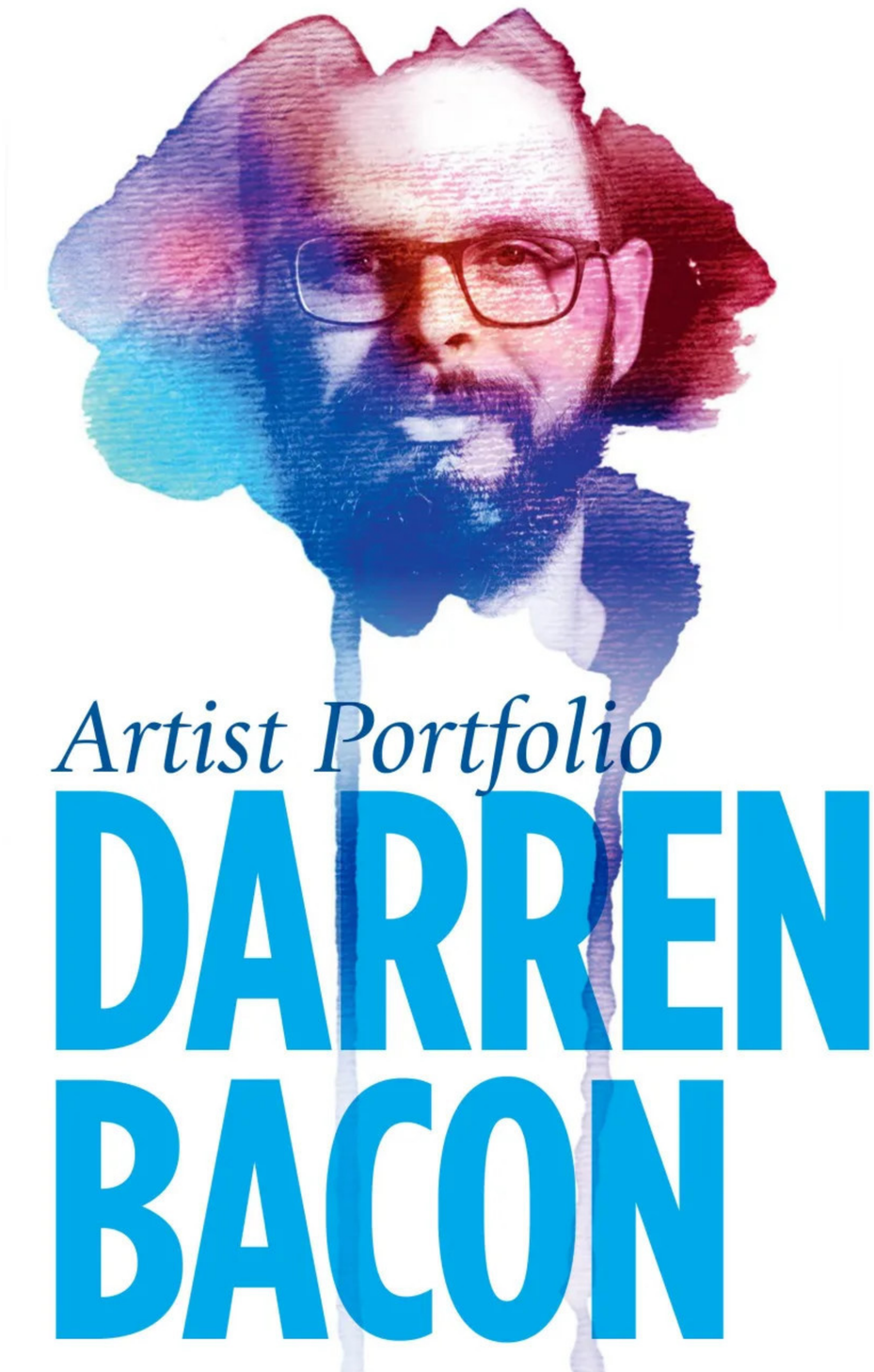
Art for Thronebreaker, a spin-off set in the world of The Witcher. Paweł tells it like it is: "Working here is demanding, challenging and dynamic."

these proud moments every time I read one of the fan letters people send us," she says. "We often laugh that as artists and game developers we should chill – it's not like we're saving lives or anything. But whenever I see that the games we create positively affect the lives of the people who play them, I feel a huge privilege to be one of the people that make them."

And she'd love you to join them if you're interested in progressing your game art career. "If you like what we do, make sure to follow our website for new job openings," Bogna says. "We're always on the lookout for talented and friendly individuals who share our passion for games. And even if you feel like you're not there yet, don't give up. Starting as an intern might just be the thing that will push your art career forward big time."



"With Cyberpunk 2077 we've had to approach familiar situations in completely new ways, and we're stronger for it," says Michał.



Artist Portfolio

DARREN BACON

Project pillars, studio culture, and the final five per cent: Halo's lead concept artist takes **Gary Evans** behind the scenes of the AAA-franchise



All Halo artwork © 343 Industries

You work as a concept artist at video games developer 343 Industries. You've just finished designing a vehicle for the new Halo. You're pleased with it, this assault vehicle. You like the energy weapon, the anti-gravity propulsion system, the hatch on top that covers the player. It's functional, but it looks good too. At least, you think it looks good.

You take your concept into a meeting with the rest of the team. Somebody speaks up. A fellow concept artist doesn't like your design. This person's got a problem with your hatch, that part of the vehicle that covers the player. They don't think it looks good at all. In fact, they think it's ugly.

So you and your fellow concept artist look to the head of the table, to Darren Bacon, lead concept artist on the Halo franchise. He thinks for a minute, then points at something stuck up on the wall – an overriding idea that helps guide the production process. He's pointing at a "project pillar."

"If a project pillar is 'gameplay first,'" the American says, "it's easier for a team designing a vehicle with a disputed 'ugly' hatch on top to know what action to take. To solve the discrepancy, the teams knows, at a project level, that the gameplay function of being able to cover the player is more important than some aesthetic preference. Therefore, they can make the right decision for the project, knowing what's most important according to the pillar."

PERFECTLY COMPOSED

"This image was done near the ship date of Halo 5: Guardians as a magazine cover proposal. It was tricky because there were so many compositional elements going on."

> **"If a project pillar is 'gameplay first' then it's easier to know what action to take"**

THE GOOD, THE BAD AND THE UGLY

It doesn't matter whether or not your hatch is ugly. What really matters is that your hatch serves its purpose. This, Darren says, is where things get a bit weird, a bit paradoxical. Your concept art can be both good and bad at the same time. It can succeed in being functional, but be less successful as a standalone piece of art.

Your work may still be very good. It's 95 per cent of the way there. But the difference between creating a very good piece concept art and a truly great one all comes down to the hardest part – that final five per cent. So how do you get to 100 per cent?

Artist PROFILE

Darren Bacon
LOCATION: US
FAVOURITE ARTISTS: Syd Mead, Doug Chiang, Ralph McQuarrie
SOFTWARE USED: Photoshop, Modo
WEB: www.darrenbacon.com

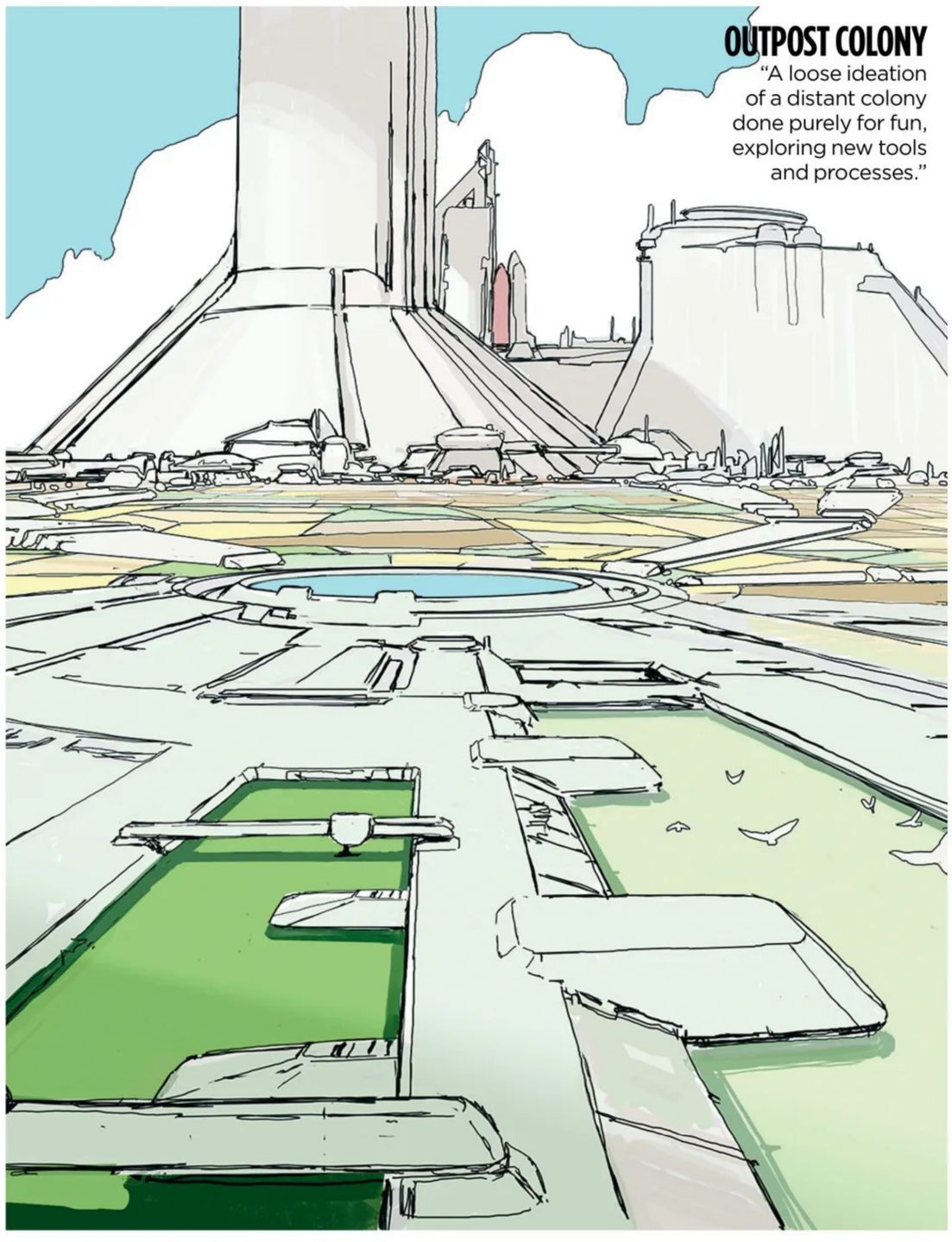


HUMAN SPACE

"In Halo lore, one of the ships (left) comes back to Earth for an update, and in the background we can see the next generation of the fleet being constructed in low Earth orbit."

OUTPOST COLONY

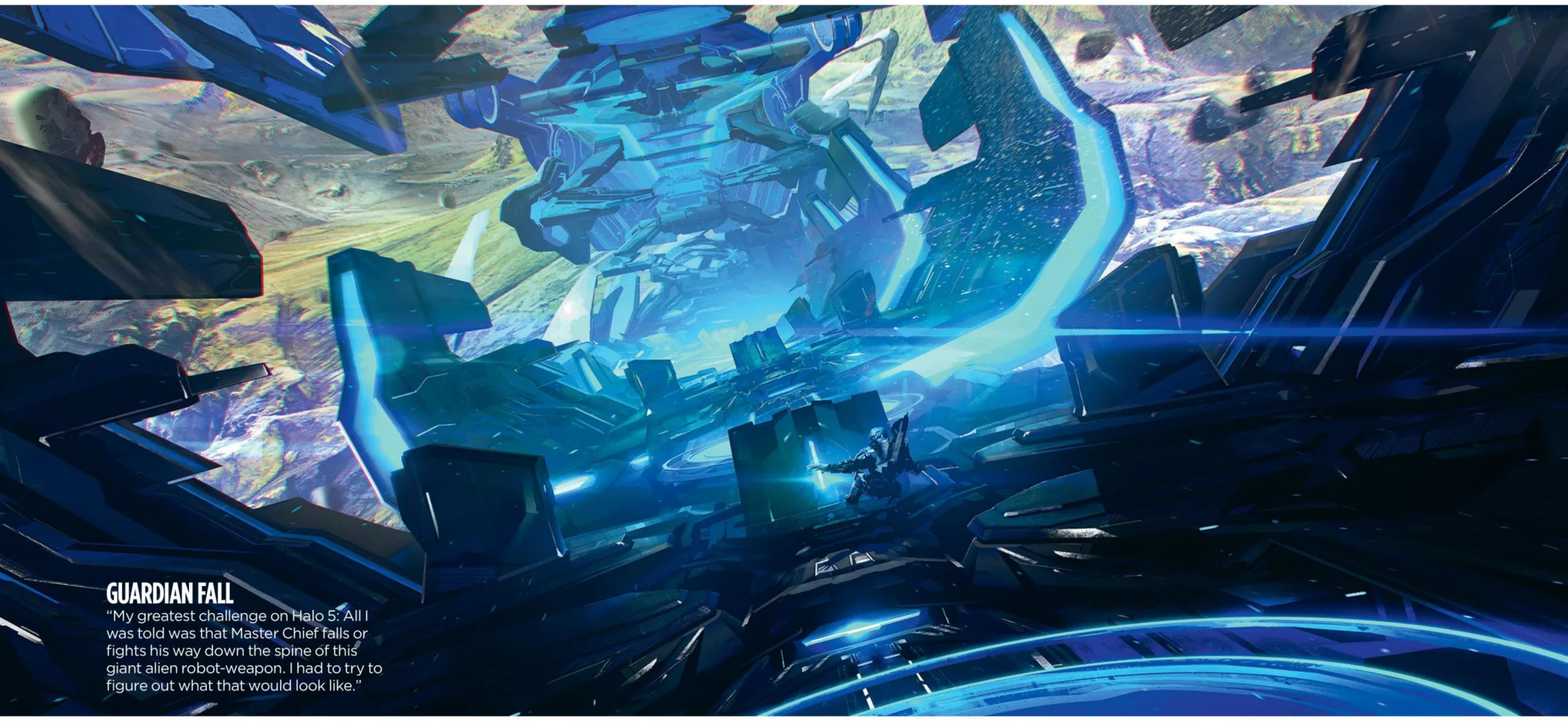
"A loose ideation of a distant colony done purely for fun, exploring new tools and processes."



MEAD INSPIRED

"This is fan art of a Syd Mead rover design. I wanted to depict it in a different situation other than drawings I've already seen Mead illustrate previously."





GUARDIAN FALL
"My greatest challenge on Halo 5: All I was told was that Master Chief falls or fights his way down the spine of this giant alien robot-weapon. I had to try to figure out what that would look like."

TAKING HARSH CRITICISM

For Darren's first ever job in art, he had to come up with drawings that served a purpose… a pretty dull purpose. This was back in high school. His art teacher put him in touch with someone who was writing a manual about oil. Darren had to draw a selection illustrations of oil workers performing various storage and transfer procedures.

"It wasn't the most exciting work," he says, "but I'm very thankful for the experience. Looking back, it was kind of remarkable what a huge impact that had on me. Because, even though I only made a few hundred or maybe a thousand dollars or so, at such a very young age, that formed an incredible shift in my mindset about becoming an artist professionally."

> **"One of the greatest things about my time in school was learning to take criticism"**

Darren studied entertainment design at the ArtCenter College of Design in Pasadena, California. College was a stressful experience, but stressful in the best possible way: "There was a lot of pressure to generate a lot of quality work all the time, while also keeping your head above water on the workload and hitting certain milestones along the way.

"I would say one of the greatest things about my time in school was learning to take harsh criticism. Learning to get comfortable taking and applying criticism can be a discipline all in itself."

Darren describes 343 Industries, a studio of several hundred people, as being like a big ship. Once it sets off, it's very difficult to turn around. Far better to point the thing in the right direction in the first place. Project pillars help keep the ship on course. But even more important, something that Darren keeps coming back to, is "studio culture." This is what guarantees smooth sailing.

GLASS EXPLORATION
"This was illustrated for the franchise team, exploring ideas around surviving pioneers analysing their ruined, glassed planet from Halo Reach."



AGREE TO DISAGREE

Studio culture means a number of different things. Communication is one. If somebody thinks a hatch is ugly, they should feel comfortable enough to say so. But they've also got to be flexible and make compromises. If they're overruled on the hatch, they have to "disagree and commit." Darren calls it "growth mindset." Instead of being a know-it-all, you need to be a "learn-it-all." You also have to be able to build on other people's work. It's a collaborative process. So take the criticism and crack on, just like Darren did in college. But he understands that it's not always an easy thing to do.

"Art can be such a personal expression. Making art commercially puts us artists in a vulnerable position. What was once



THE MARTIAN CHRONICLES

"I was listening to the audio version of The Martian Chronicles and began sketching: here, a team is exploring a giant canal network."

A DATE WITH DESTINY

Darren shares key moments from early on in his career that helped shape the way that he works today

"There were a couple of memorable breakthroughs I've had in my career. The first was during my time at Bungie. Some point during the production of Destiny, my workflow started to click and I got to the place as an artist where I could pretty articulately get my ideas out in a close to 1:1 fashion.

The thing I spend a lot of time and effort on is putting that 3D or photo texture into the scene and then rebuilding it or embedding it into the image in a way where it all sits together. If I manage to do as intended, it should be difficult to figure out how I did it. I try to cover my tracks and include as much image data as I can possibly get in an image, while also hitting the look I'm going for. As a reminder, I keep folders of benchmark images made by myself or others, so I have a ballpark that I know I'm trying to stay in stylistically.

Prior to that, I think I did some of what I would consider good work, but it was unintentional or done out of sheer will and extraordinary effort. I mean, I think some of that earlier work was good or useful, but I didn't always know how to replicate my successes every time. I was just sort of trying super-hard and would get lucky as a result of the effort sometimes.

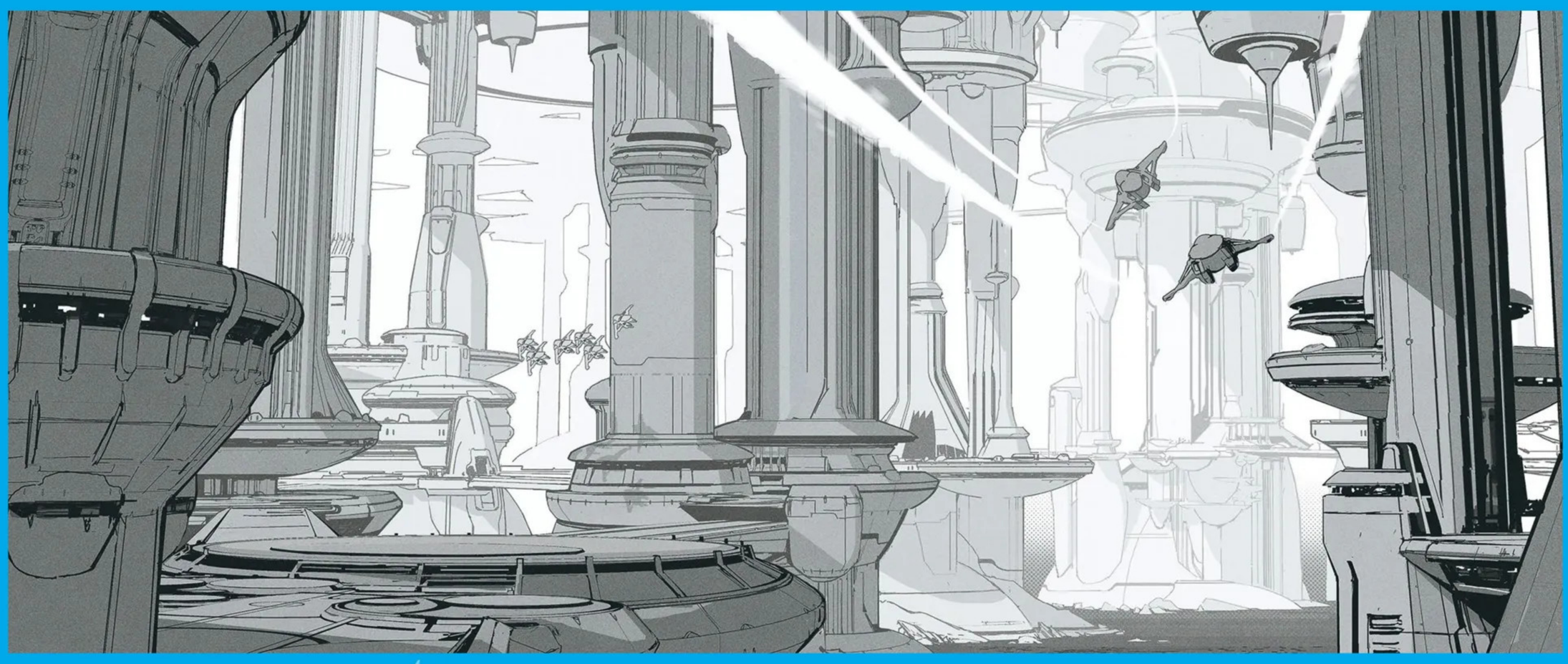
Since that breakthrough, I've grown to a place where I can start to analyse images in a much better way, so I now know what works and what doesn't, and why. I wouldn't say I've mastered it, but I feel like I can more regularly get my work to that last five per cent wall and then I can spend more of my energy struggling there."

FORERUNNER TEMPLE

"This is a good example of a 3D environment art draw-over. I'd work with the 3D environment artist who's designed a loose 3D art block-in, which they'd like help 'arting' out."

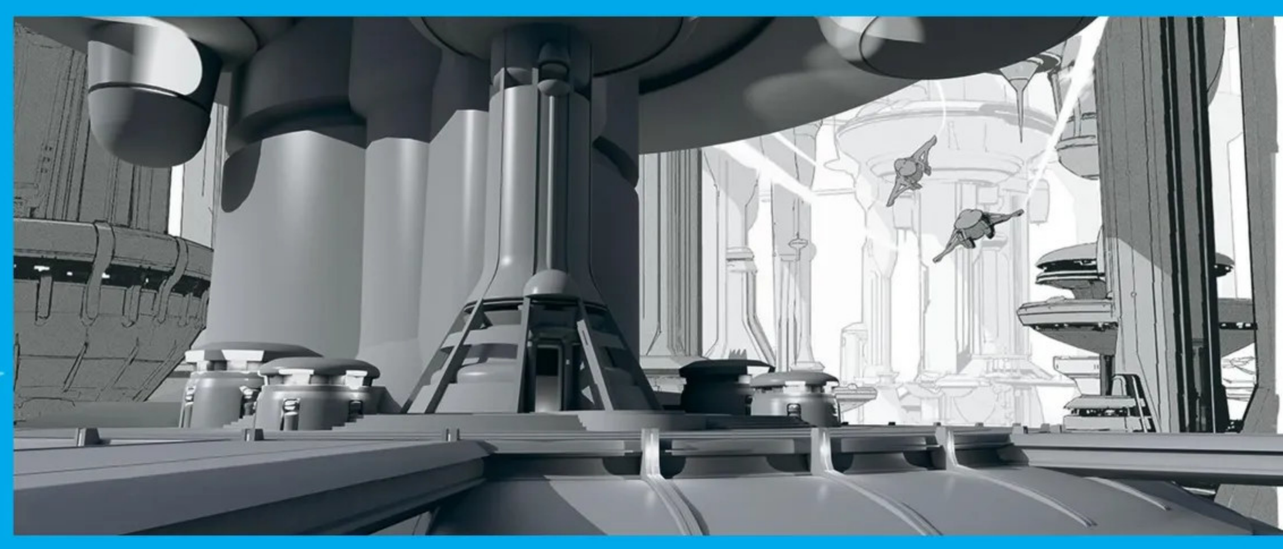
BATTLE OF SUNAION

Darren talks us through the concept art that was created for a level in Halo 5: Guardians



1 LOOK AND FEEL

"This concept was done to establish the look and feel for the overall art palette for the mission Battle of Sunaion in Halo 5: Guardians. The process started out with exploration sketches. This version was getting pretty close to what we wanted, so we decided to push it a bit further into a more resolved image."



2 AN ILLUSTRATIVE LOOK

"For this type of task one of my favourite ways to work is to find a sketch I'm happy with, lock a camera to that image in 3D, and build out some basic geometry to establish the scene. I try to resolve foreground elements in 3D if I can, because then the closest information to the camera is the most structurally solid. Detail and structure can then dissipate to indication, as elements fade to the background of the scene. I can hand-paint that information in to save time and retain a more illustrative look."



3 HARMONISING PROCESS

"While finishing a painting I like to work from background to foreground, ideally. Once I get the bulk of the image laid in as a sketch or 3D, I find it helpful to resolve the background first and let that dictate the rest of the image's fidelity. I can indicate a lot of details in the background, and build in more information as I move forward to the foreground. In the foreground my efforts go into 'breaking' the 3D and harmonising it with the rest of the image."





4 BACK TO FRONT

"I've included this step to show my thinking on working back to front. This new element on the right is in the mid-ground, and starts to get built in 'paint' as I work closer to the camera in the painting."



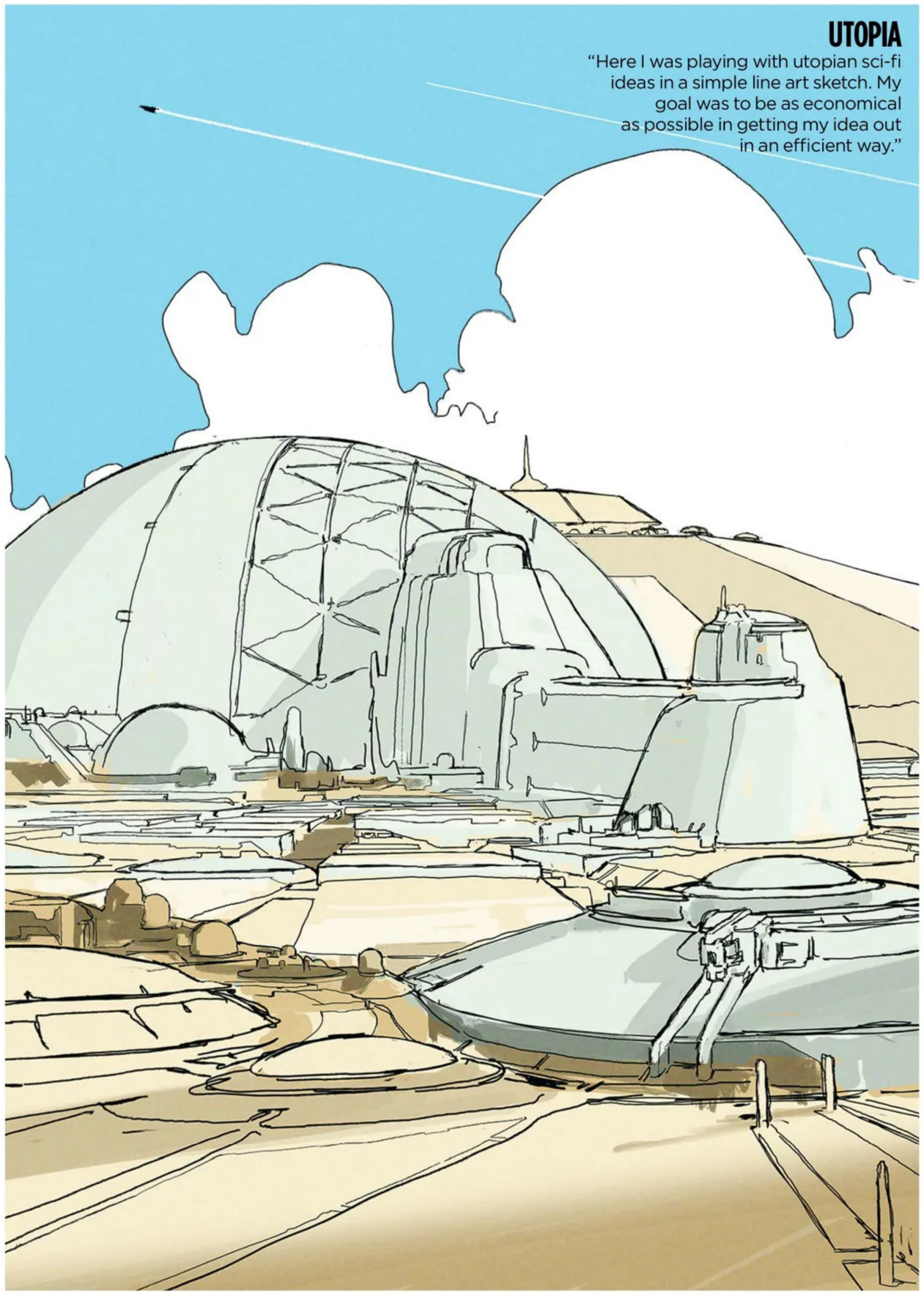
5 IN THE FOREGROUND

"I've moved to the foreground and can see the finish. A lot of the data I want to have in the final is now in the image, and it's now more about finishing details, harmonising and tweaking the image overall."

6 FINAL IMAGE

"I've continued adding balance to the piece, and put in a few last-minute narrative details,such as the shadows on the central structure, to add the illusion of more of the banshee's [a flying vehicle] presence out of frame."





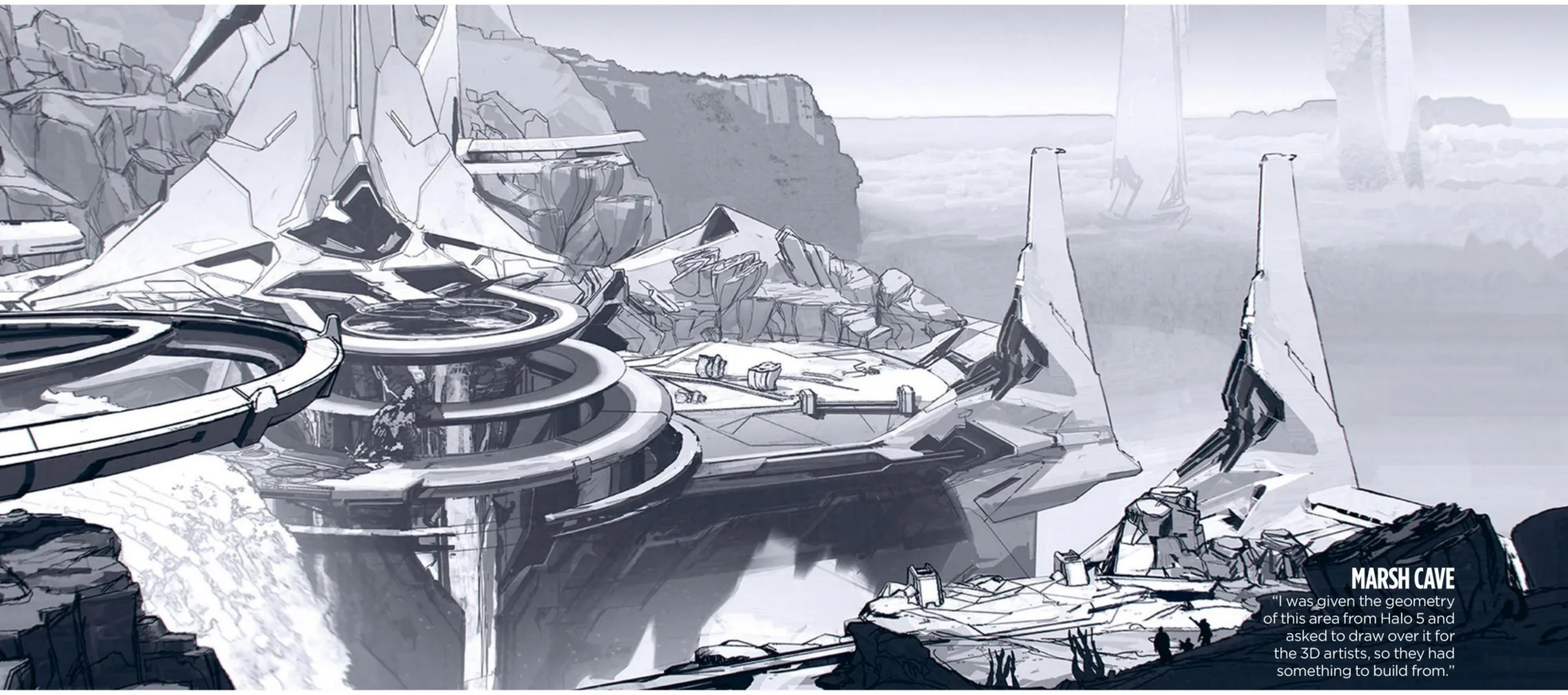
"You try something, it doesn't work, so you move on. This is another big part of the studio culture at 343 Industries"

this personal expression of ourselves has now become this measurement of our worth as an employee or content creator. It can get weird."

A big project like a Halo game starts with a "pretty extensive pre-production phase". Darren calls it a "delicate time of incubation." This is where concept artists have a lot of fun. It's the ideas stage, so artist must be allowed to fail and feel comfortable doing it. You try something, it doesn't work, so you move on. This is another big part of the studio culture at 343 Industries. A lot of that failed art will end up in the archive and may never be seen again. So you need to show perseverance, grit. It'll be a while before everybody knows exactly what they're doing.

Darren describes concept art as the first step in the process of developing everything that will go into the game. His team helps establish the look and feel of the environments, characters, vehicles… everything. A writer, director or art director comes up with an idea and the concept team illustrates it. That idea will go from rough sketch to completed illustration, and then the 3D teams will take over from there.

As lead concept artist, Darren still makes art himself. But as the production moves forwards, he finds himself in more and more meetings. He's also responsible for less glamourous-sounding stuff: schedules and load balancing and quality assurance. He's the person who the rest »



MARSH CAVE
"I was given the geometry of this area from Halo 5 and asked to draw over it for the 3D artists, so they had something to build from."

of studio comes to when they want to talk about concept art.

The big breakthrough is the first time the team gets to play it. This will be a very rough version, an early build, but it's the moment the game begins to feel real. Darren reckons artists and game developers would happily refine and tinker indefinitely, but he's also a big believer in deadlines, because a bit of pressure invariably leads to better work. So how does he know when something's done, when he needs to stop refining and tinkering?

"A lot of it has to do with when I'm not really offended by it any more. Both in personal art and game assets, I tend to have pretty high expectations, and I usually can tell quickly if things aren't meeting my personal benchmark. Getting the feel for that probably just takes a while, looking at art and media, and my personal obsession of continually improving my own art."

> **"I usually can tell quickly if things aren't meeting my personal benchmark"**

THAT FINAL FIVE PER CENT

On Darren's desk sit a couple of large monitors and a Wacom Intuos tablet. He mainly uses Photoshop, with Modo for 3D work. He's working digitally, but his aim is emulate the traditionally painted work of his favourite concept artists, guys from the 1970s and 1980s, the innovators: Syd Mead, Doug Chiang and Ralph McQuarrie.

These artists knew how to get that final five per cent, the bit that separates the good and the great, the work that has a real voice. Darren believes there's only a very small percentage of artists who know how to do that.

"Imagine an exponential curve. Far to the right are the final few percentage points that are nearly seen straight up, like a wall. Prior to that point, artistic or design achievement is easy-ish to obtain, so many can get fairly far down the curve. The artists who know how to get up that final wall of the graph are very rare, and that wall is what I'm struggling to hit and get up every day, and it's what keeps me motivated."

Darren doesn't have a foolproof method for making great concept art. But he has the next best thing. Early on in his career, Darren received some useful advice from a co-worker. The advice was simply put: "Make your art look beautiful to you."

"I'd been struggling and kind of frozen trying to paint key art. He was helping me with an image and had me start to focus on just painting it to look good to me, and not worry about anything else. The neat thing about working like this is that, over time, as you figure out what it is you like and what inspires you, your work will start to develop its own voice."

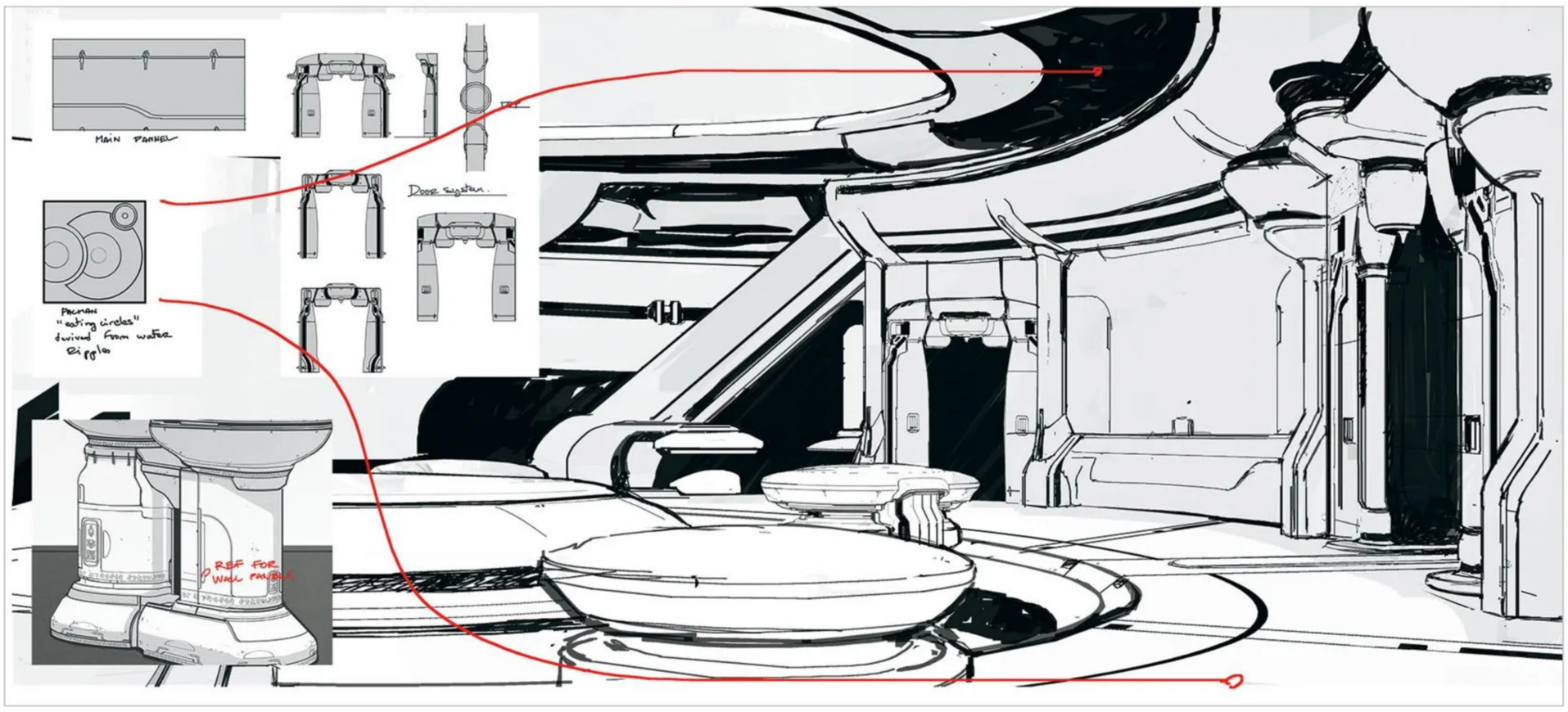


BACKGROUND DESIGN
"A concept piece done for a specific shot of a cinematic from Halo 5."

GROTTO

"This was part of an environment art palette on the planet Sanghelios in Halo 5. It was done for the environment art team to define this section of the game and to expand on the art style."



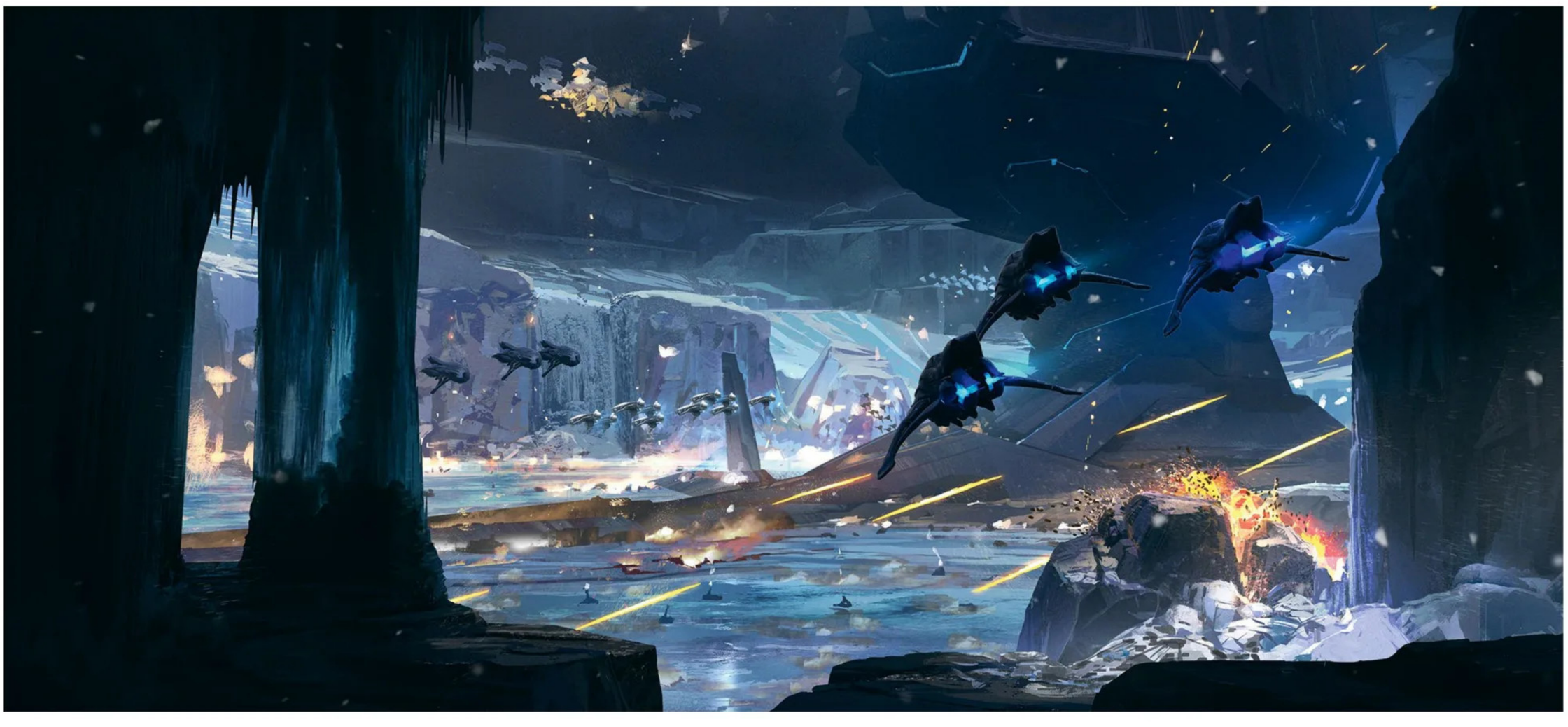


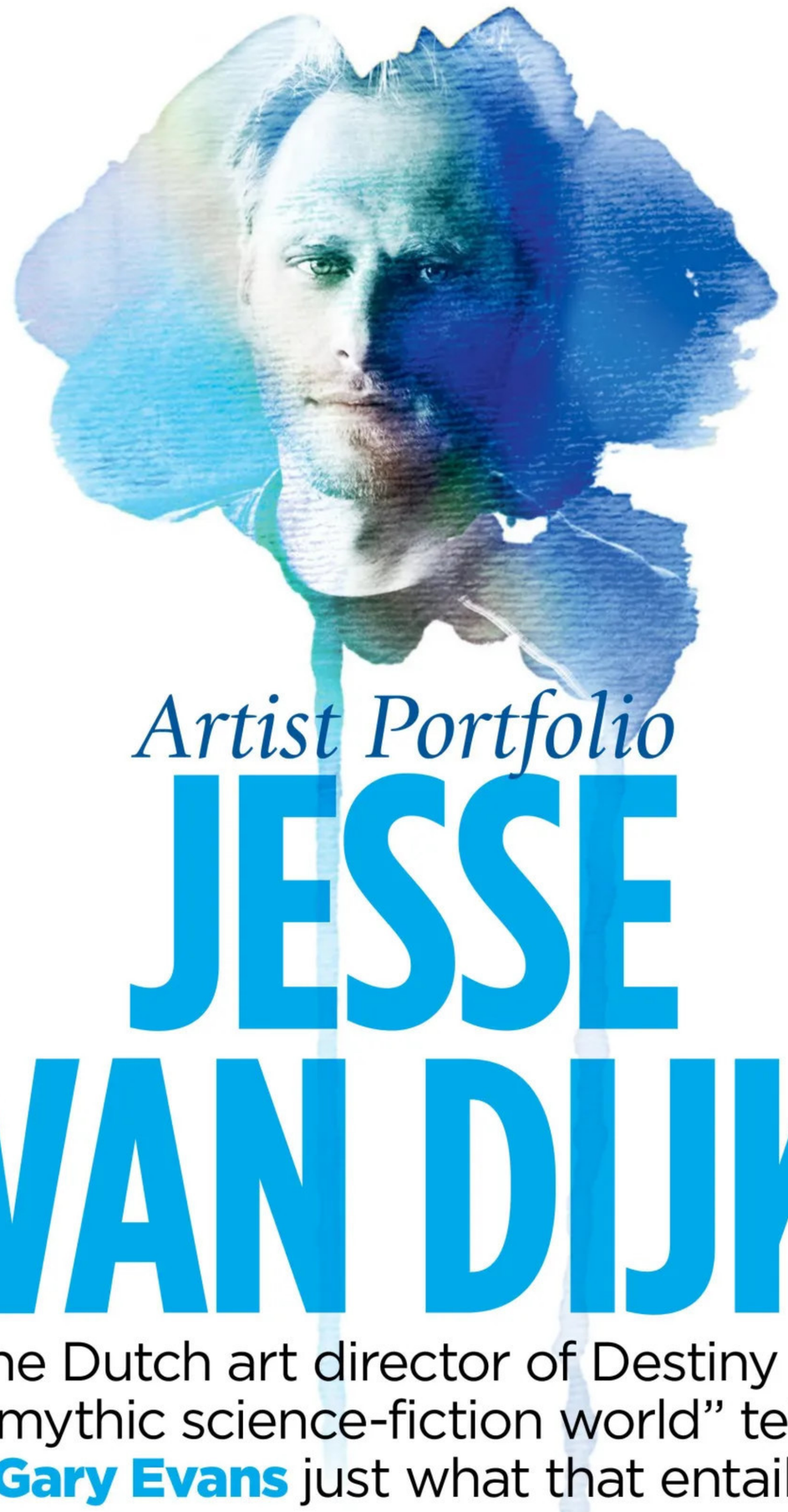
TSUNAMI

"This drawing was done over specific designer geometry to help the environment artist solve the aesthetics in this space."

HALSEY

"This image helped sell the idea and to get all the teams on the same page. It shipped and can be seen in-game during the opening mission of Halo 5."





Artist Portfolio

JESSE VAN DIJK

The Dutch art director of Destiny 2's "mythic science-fiction world" tells **Gary Evans** just what that entails

Jesse van Dijk wants three things to happen when you look at his work. He wants you to relate to it, remember it, and to feel in some way surprised by what you see. He paints imaginary places that are all in some way a version of a fantasy of being in another world.

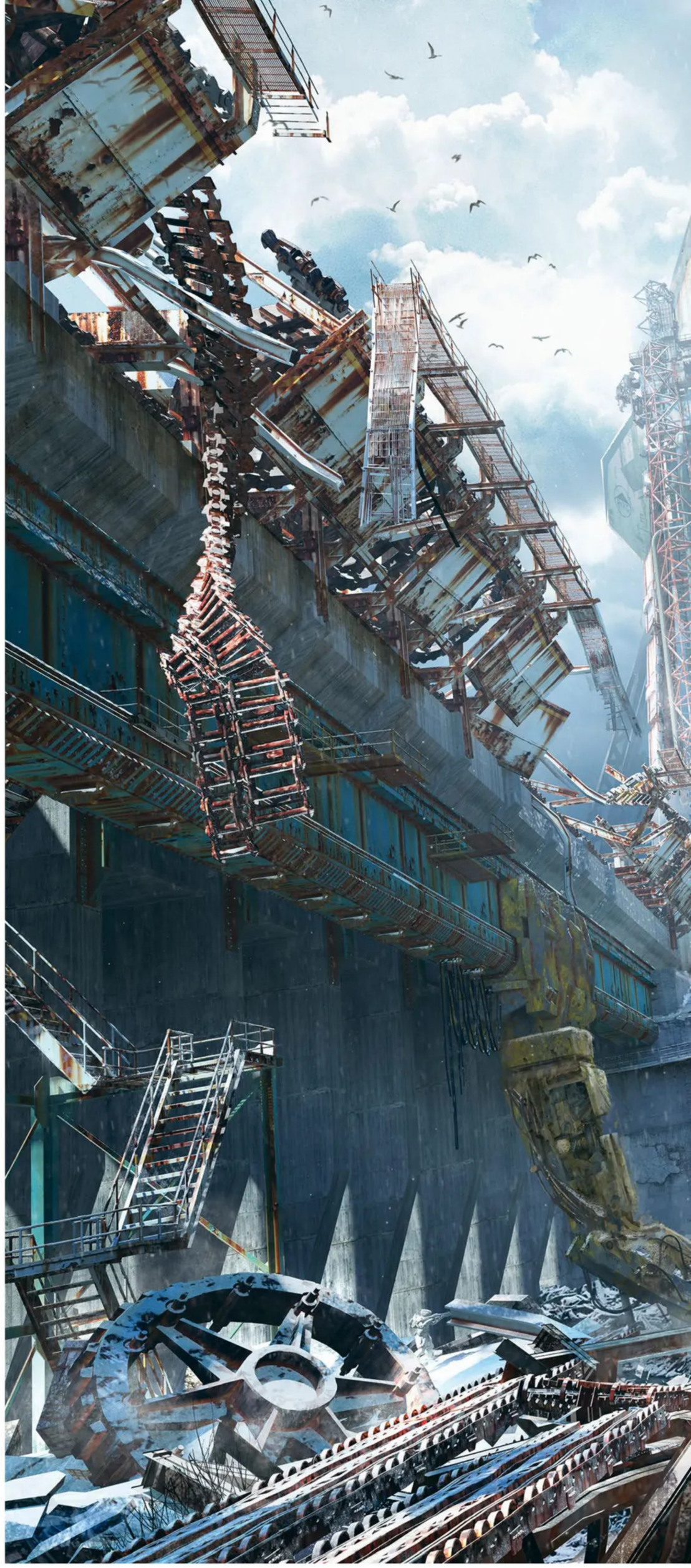
"Accomplishing all three – relatable, memorable, surprising – in a single piece virtually never works for me," says the art director, who is originally from Amsterdam but now lives and works in Seattle, US.

"But it's just what fundamentally motivates me to do the work I do: a desire to go to these strange, alien places from the comfort of my couch. I'm a huge sucker for wide open spaces and epic views, rich with possibilities. The ones that raise more questions than they answer."

After high school, Jesse studied industrial design engineering at Delft University of Technology. The course included more maths and physics than visual design. He loved using drawings to sell the viewer an idea. But doing this for coffee machines and vacuum cleaners didn't really get him going. "I was a mediocre student," he admits.

Around this time, he started to put a lot of time into making custom maps for first-person shooter games such as Doom and Quake. Back then, level design as a discipline combined both art and game design, so he learned the basics of encounter design and general design principles ("valuable lessons later in my career.")

He dreamed of getting a job at Guerrilla Games. At the time, the Dutch developer was at that time working on the first in its Killzone series. Jesse applied for roles there



DESTINY FULFILLED
Jesse says great concept art must be three things: relatable, memorable, and surprising. But he admits he rarely nails all three in a single image.

> **"I'm a huge sucker for wide open spaces and epic views, rich with possibilities"**

Artist PROFILE

Jesse Van Dijk
LOCATION: US
FAVOURITE ARTISTS: John Harris, Zdzisław Beksiński and Peter Gric. The art styles of classic films such as Solaris, Stalker and Time Bandits also influenced Destiny 2
SOFTWARE USED: 3ds Max
WEB: www.jessevandijkart.com



several times, but it took years before he finally got in.

He ended up at the now-closed Playlogic Entertainment, a games company with "more good intentions than shipping expertise." Level design as a discipline started to change. Art and game design became separate disciplines. Playlogic didn't employ any concept artists. Jesse stepped into this new role. "Concept art was the perfect way for me to contribute to the development of the games that we were working on."

Later, when Jesse received a job offer from Bungie, he thought the American company had contacted him by



DAYDREAM IDEAS
The Dutch concept artist's work always begins with a daydream, as he fantasises about exploring new worlds.

All Destiny 2 artwork © Bungie

»



ENGINEERED ART
Jesse studied industrial design engineering – drawing coffee machines and vacuum cleaners – which helps his vehicles look meticulously accurate

mistake. It wasn't an easy decision to leave home, but he knew he'd regret it if he didn't take the job. He made the move to the US, which was a "life-changing event in every way."

EXPLORATION IS KEY

Jesse now works as art director at Bungie. His team worked on the first-person shooter Destiny 2, which was released in September 2017. But what does that job title mean? And what exactly does an art director do all day?

"I spend a lot of time in meeting rooms," Jesse laughs. His job usually entails one of two things: creating new stuff or assessing complete work. "In the case of the former, the task at hand often amounts to defining clearly and concisely what the specific requirements for a piece of content is, so that people who are going to work on it are aligned and work towards a common goal. In the case of the latter, it's assessing the progress of a given chunk of content, seeing if it does indeed solve the problem it was intended to solve, and as it nears completion, deciding when to stop working on it.

"Prototyping is like painting. You try out a bunch of ideas to see if they work"

"In preproduction, exploration is key, whereas during closing it's highly important to maintain focus on previously established and agreed-upon goals."

The initial phase of a big job like Destiny 2 is about coming up with an overarching vision for the game. As an art director, Jesse wants to define the tone and the mood of the world he's creating. He asks himself questions such as: "What does it look like? What does it mean for a world to be 'hopeful and inviting'? How do we strike a compelling balance between the strange and unfamiliar, and the relatable and the known?" Answers to these questions will form "pillars" on which the whole game will be built.



BIG QUESTIONS
When starting work on Destiny 2, Jesse asked his team these questions: How do we strike a compelling balance between the strange and unfamiliar, and the relatable and the known?

KILL THE BAD IDEAS

The team then split off into their specialist disciplines to prototype. "Prototyping is like painting. You try out a bunch of ideas to see if they work. Some do, some don't. You take the ones that do, and try to combine them somehow, while simultaneously



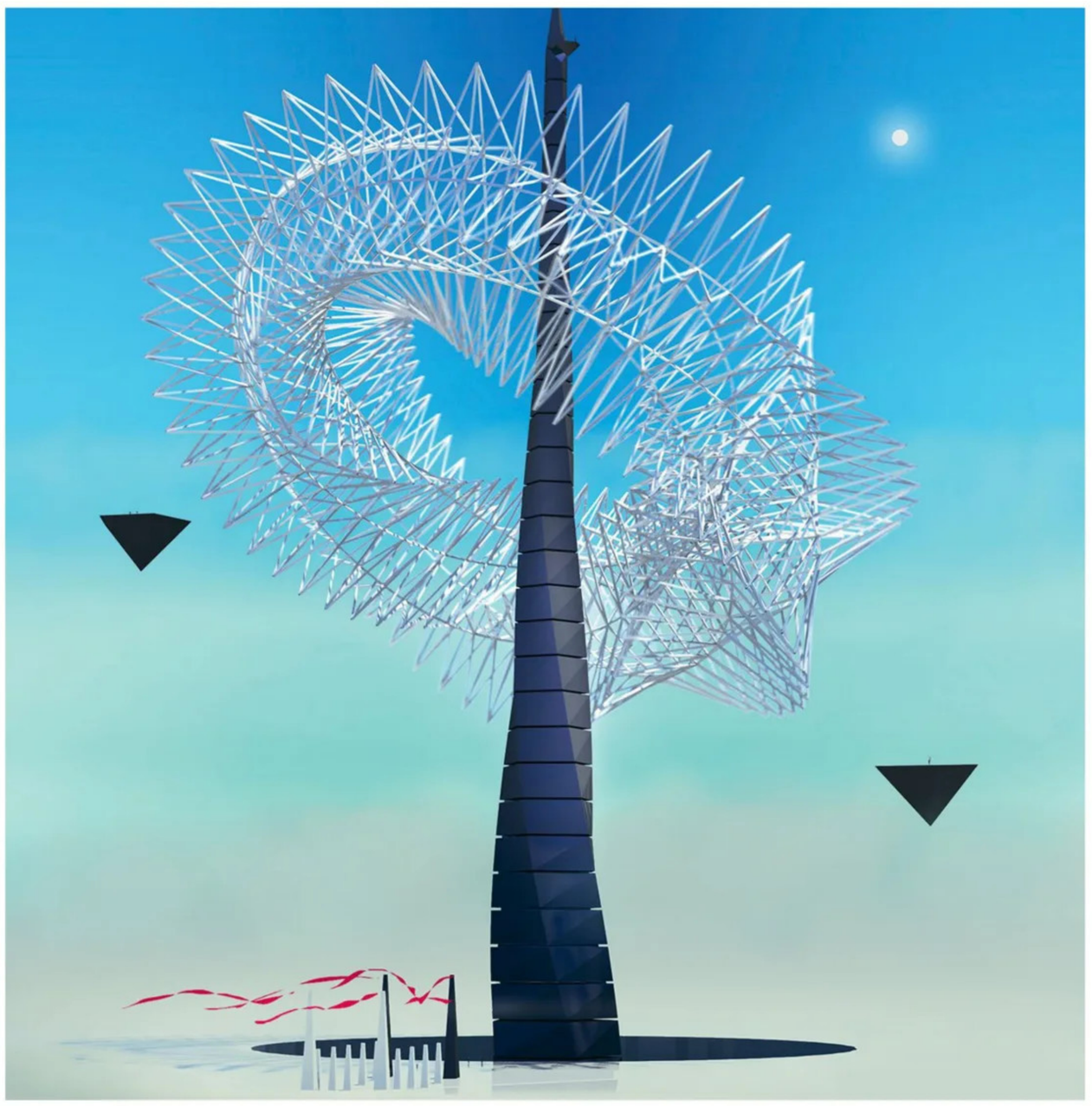


GAME PILLARS

Before Jesse's team splits into its various departments, they have to agree on the game pillars – the controlling ideas around which everything else will be built.

making them better individually." This, Jesse says, is what being a good art director is all about: you must be "hyper-conscious" of which ideas are good and which ideas are bad. You need to kill the bad ones as quickly as possible rather than waste time on them – even if those ideas are yours.

As an artist himself ("one of the best video game concept artists on the planet", according to Kotaku.com), Jesse knows what kind of art directors he liked to work with. "I always



THE FRANCHISE BUILDER

Before Destiny, Jesse cut his teeth as a concept artists at Guerrilla where he worked on Killzone 3, Killzone: Shadow Dall, and Horizon: Zero Dawn. "All of those games have special places in my heart."

LIFE CHANGE

Moving from Holland to the US was the biggest decision Jesse ever made: "I don't regret taking the plunge. The experience of living in another country is unlike any other I've had and I can heartily recommend it to anyone."

»

VISUALISING AN OCEAN OF LIQUID METHANE

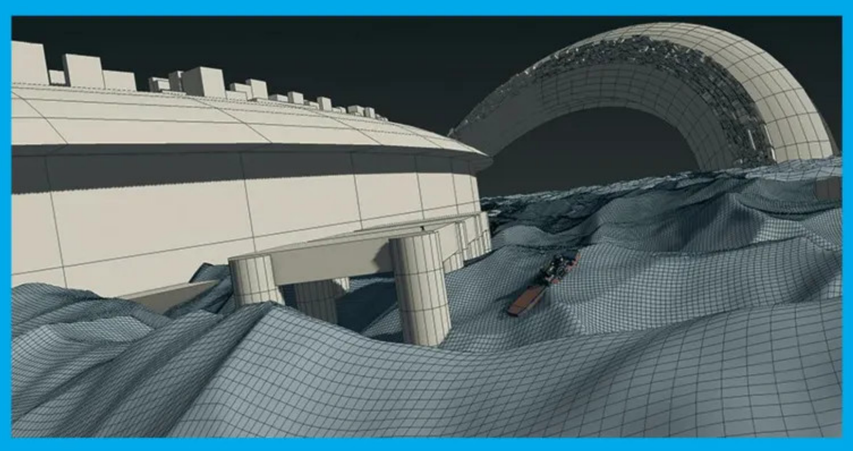
Jesse talks us through his process for creating fascinating new worlds

"I put together this concept artwork to pitch the concept of going to Titan in Destiny 2. The idea of travelling to this strange world with an ocean of liquid methane seemed so compelling.

I imagined what actually colonising this world would look like: I presumed there would initially be a steady stream of vehicles dropped in from orbit, which would slowly accumulate to form some kind of a flotilla on this moon. This is where the idea for the construction platforms and the actual arcology here came from.

In an effort to pre-visualise what the liquid methane ocean movement could look like, I made a simple animated version of it in 3ds Max.

Later on I discussed this art and my ideas with the amazing FX artists who managed to do an awesome job of creating the final ocean in the game."



STRANGE WORLD

Jesse used this work-in-progress to pitch ideas for Titan, a "strange world" with oceans made of methane, he explains.

EPIC VIEWS

The Dutchman loves creating "wide open spaces and epic views," and environments that "raise more questions than they answer."

"I desire to go to these strange, alien places from the comfort of my couch" »



A DATE WITH DESTINY
Destiny 2 was released in September 2017 to wide-spread critical acclaim. It reached number one in games charts around the world.

enjoyed it most when art directors would delegate their design problems to me, rather than present me with prescribed solutions," he says.

"It means I spend a significant amount of time thinking about how to frame problems in such a way that they are devoid of unnecessary specifics, and to ensure I never define a vision further than I need to."

Lastly, being a good art director takes discipline. You must see a project through to the end, ensuring quality, keeping within budget, without burning out your team, he says.

The same way that you need to know when to kill a bad idea, you must also know when the good ones are finished and of a good-enough quality. You need to know when to let them go. "Even," Jesse says, "if they still might have room for improvement."

What Jesse finds most rewarding is seeing artists thrive, watching them surpass even his high standards. "The best moments of working on Destiny 2 were where a group or an individual had done something amazing, something nobody was expecting them to do."

THE UNKNOWN FRONTIER

As a freelance artist, Jesse worked in many areas of the entertainment industry, from big book publishers to major Hollywood movie studios. Each required him to use his skills in a slightly different way.

"I think of game design as an unknown frontier and I'm excited about what the future will bring"

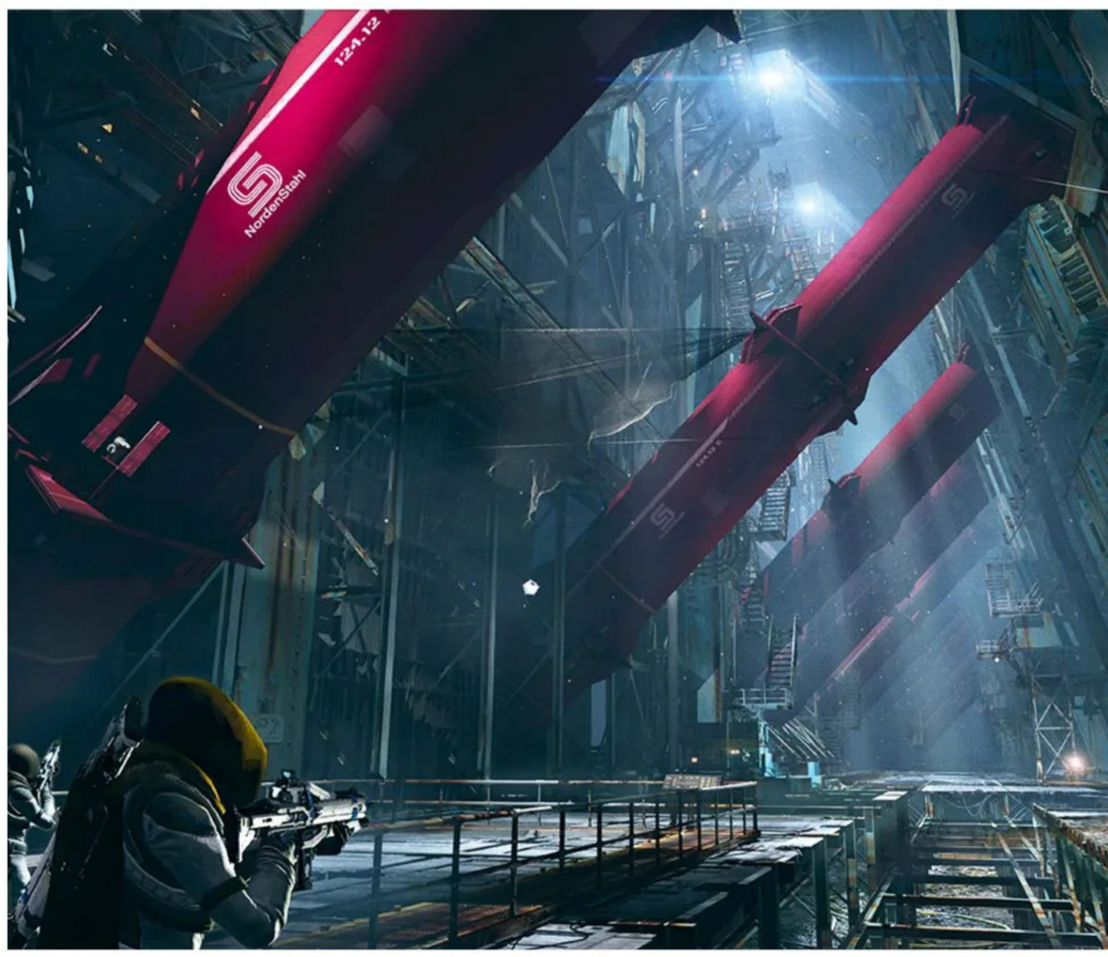
A GOOSEBUMPS MOMENT

Jesse's team waited for fans to deliver their verdict at a preview of Destiny 2...

"A breakthrough moment came during our 'reveal event' for Destiny 2 back in May 2017. When the first trailer played, and Zavala appeared on screen, the crowd went wild.

Most of Bungie was watching this on a large screen in the studio, and we were all a bit nervous – and excited, of course. But when we heard that first roar of excitement from the crowd at the event, we knew this was going to work out. It was very much a goosebumps moment for me.

Bungie is full of amazing people who routinely pull this off, and as such, it truly is a joy to be a part of their team. When that happens it's just pure magic."



FUTURE OF GAMES
The thing that excites Jesse most about the games industry is that it could go in any direction in the future: "It's hard for me to predict what games will look like in 10 years from now."

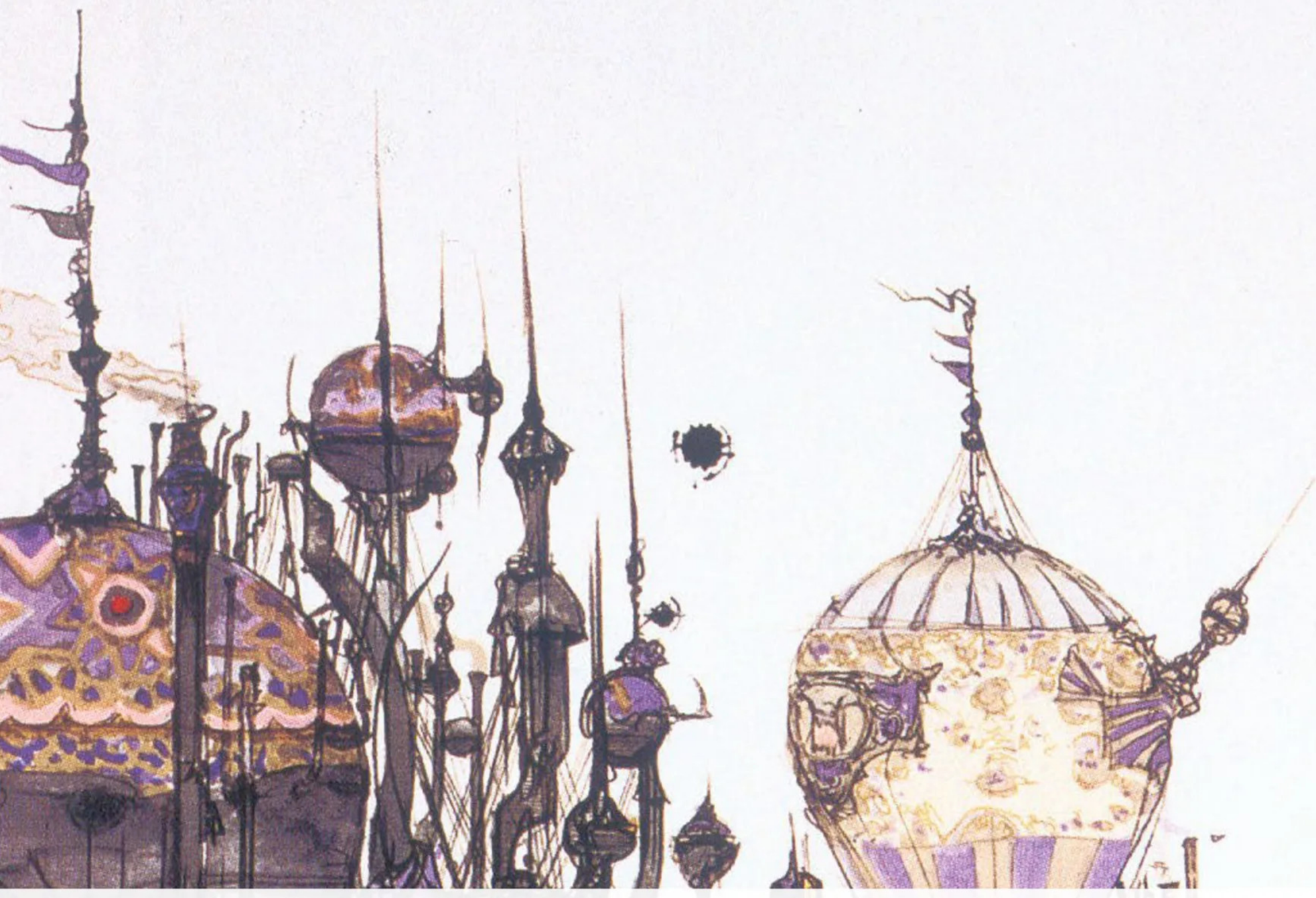
Visual design for film, he says, is all about storytelling. Visual design for games is also about story, but there's more to it – more layers.

With games, he and his team are building places for the player to roam and options for them to explore once they reach each new location in the game's world. Fitting multiple ideas into one cohesive package is a challenge, but it's what Jesse likes about video games.

"It's hard for me to predict what games will look like in ten years from now, more than it is to imagine what films will look like at that time," Jesse says. "This is the aspect of game design as a medium that appeals to me most. I think of it more as an unknown frontier and I'm excited about what the future will bring."

JESSE AS ART DIRECTOR

"To a large extent, what kind of art director I'd like to be perceived as is informed by my own personal interactions with art directors as an individual contributor concept artist."



Yoshitaka Amano

From Final Fantasy to working with Neil Gaiman, one artist has done it all – and in every medium...

Translation: Michael Gombos, Director of Asian Licensing, Dark Horse



He's a busy man, Yoshitaka Amano. Back in 2008 we caught up with the iconic artist while he was attending San Diego's Comic-Con International. At that time he was splitting his time between two booths, promoting and signing not one but two books: Fairies at Dark Horse, and Mateki: The Magic Flute, next door at Radical Publishing. Tucked behind screens that do nothing to dim the sound, Amano-sensei and his translator unravelled the origins of his career as an artist.

"I never really had the inspiration to become an artist," Amano explains. "I »

THE CITY
Amano's work for Final Fantasy is instantly recognisable. Here a giant mecha marches on to adventure.

Artist **PROFILE**

Yoshitaka Amano



This man's CV reads like a roll call of everything cool about Japanese art. Vampire Hunter D, Gatchaman, Final Fantasy, his Sandman collaboration with Neil Gaiman and a whole heap of stunning gallery works too.

www.amanosworld.com



FUDOU II
One of a pair of massive metallic images, here we see popular characters from the Gatchaman series isolated from their traditional comic book context and left to work alone, their expression and pose portraying their story.



EXHIBITIONIST

The German highbrow art set go wild for Amano's gallery work...

Amano's artistic influence is global – in 2008, 30 of his new works at the time were featured in an exhibition at the Galerie Michael Janssen in Berlin. The bulk of the exhibit were massive pieces created using car paints on aluminium panels – as well as some anime work.

Art critic Dr. Ralf Christofori said of his work, "Amano's paintings are a proverbial feast for the retina. And yet at the same time something seems to be warning us not to believe our own eyes all too readily." Further selections of his work went on show in Frankfurt and Cologne. Here are a few of his stunning exhibition pieces.



© Courtesy of Galerie Michael Janssen, Berlin

DL-IX - THE HITEN SERIES
Starting in the nineties, his Hiten paintings showed off a more abstract and expressive element to his work, and have been considered to have thematic similarities to Klimt and von Stuck.



MIROKU II
For his massive, eye-bending gallery pieces, Amano captures the dynamic essence of the bird-being superheroes using the most untraditional media of polychrome car paint on broad aluminium panels.



© The Sandman ™ & © DC Comics 2008. All Rights Reserved.

SANDMAN
Amano gives Gaiman's Dream of the Endless a distinctly Japanese look in Dream Hunters.



© 1991 Yoshitaka Amano

GARLAND
The antagonist of Final Fantasy I, given life at the hands of a master artist.

VAMPIRE HUNTER D
Amano is most famous for this Van Helsing-like character in his native Japan.



was always drawing, ever since I was a little child. It became a job and wound up being work before I knew it. I did actually try to have a job once, but it made me crazy so I didn't continue," he chuckles. "I figured, well I'm doing this and it's working out, so I'm just going to draw pictures forever."

Amano's influences include Neal Adams, as well as comic books involving superheroes like Batman. "There's a lot of influences," he says. "I loved 1970s pop art, which influenced me when I created Gatchaman. It was a reflection of all the things I was seeing in 70s art. I was also very influenced by Western art."

He began his career doing character designs for anime such as Gatchaman, aka G-Force/Battle of the Planets, but his name is more often associated with artwork and the beautiful logos for Square Enix's Final Fantasy computer game series. "It's interesting that, to Western people, my name is associated with Final Fantasy, because I was actually interested in Western fantasy. I wanted to depict ideals of Western fantasy. I'd done research on European and American fantasy and its creators. I also had a reputation for being able to depict it very well and tastefully. Square Enix found out about that, and saw that not only did I have a talent for art, but also that I could depict Western fantasy in a very nice way. So they asked if I would mind doing the art for Final Fantasy."

"To Western people, my name is associated with Final Fantasy"

FINAL FRONTIER

"I've worked on Final Fantasy I through to XV, and they're really hard to compare because they're all really different. While some of the technology changes, it's not continuous. Each one, to me, stands alone, so deciding which piece or Final Fantasy title is most representative of my work is very difficult." Amano's artwork will also be familiar to fans of Neil Gaiman's Sandman series. Indeed, he collaborated with Gaiman on a

© 1986-2008 by Dark Horse Comics Inc

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©1991 Yoshitaka Amano

AIRSHIP
Amano's stunning designs for this airship from Final Fantasy IV really emphasises the fantasy element.

volume entitled Dream Hunters, which put a distinctly Japanese slant on the Endless, and Dream himself. Gaiman's tales of foxes, badgers and monks were accentuated by Amano's distinctive drawings that showed the King of All Night's Dreaming in an entirely new and Japanese light.

"I had a studio in New York and one of the editors at DC Comics had looked at my art. They then got in contact with me about doing Dream Hunters with Neil Gaiman. I was really impressed by Neil. He was one of the first American creators [he's actually British] I had the chance to work with. As it happened I'd always wanted to work with someone like that – it really left a mark on me."

His latest project, based on the opera Die Zauberflöte (The Magic Flute) by Wolfgang Amadeus Mozart, retells a classic and timeless tale of love and triumph over adversity. While examining a copy of the English translation, Amano explains that it was not originally meant to be a book, but something very different. The story of Shaana and his flute, his love Kouran and their battle against the monstrous Yasha was supposed to be just a storyboard, the first step in something larger. These delicate drawings, drastically different in style, were supposed to be the origins of a film or something even more epic.

"The book, Mateki: The Magic Flute, is actually about 15 years old. I did it in a time when there were no computers to create CG or storyboards. I'd hoped the project would become an animated feature or a live action film. Essentially it's just a storyboard, but I didn't want it to be just a movie. I wanted it to be presented as a ballet with Mozart music and expressive dancing. But sadly it didn't come to fruition," explains Amano, chirpily humming a melody and miming holding a baton, as if directing an unseen orchestra.

"I have a lot of projects I keep behind a curtain, which I like to keep to myself because they're special"



© 1988 Yoshitaka Amano

FINAL FANTASY
Although Amano's artwork encompasses different styles, colours and media, it is always recognisable.

PRESENT AND FUTURE

"When I'm not drawing for work, I'm drawing for fun. Then it becomes work again," he says, revealing that we've only been exposed to a small percentage of his art. "The funny thing about doing this is that people don't see half of my work. If I present it to the public, it becomes work and if it's not, it doesn't. I have a lot of projects I keep behind a curtain, some that could potentially become work, but which I like to keep to myself because they're special, they have a particular meaning to me. I'm fortunate, I have plenty of work and can choose projects I like."

Lately he's focusing on large scale work, as well as reconnecting to the art of his native country, a land famous for

KOURAN AND SHAANA

Kouran's tears caress Shaana's heart in this touching scene from Mateki.



Mateki: The Magic Flute ™ © 2008 Yoshitaka Amano

MOZART ROCKS

Mateki was actually meant as a storyboard, and tells the epic tale of two lovers and their tribulations.



SHINJUKU

This work is a collaboration for Dark Horse Comics with Christopher 'Mink' Morrison.

©1986-2008 Yoshitaka Amano, Mink, Dark Horse Comics Inc.

delicate paintings created using a writing brush – a technique known as sumi-e. "I was working on a really big project using a car sprayer, but now I'm doing really small. I enjoy working with Japanese ink and doing these illustrations for the insides of small wooden boxes," he says. "I just did a 20 minute story in sumi-e – still pictures that look like they're animated."

But does he see himself as forever the artist, or will he return to anime, or focus more on computer games? Amano sees no real distinction, treating the whole sphere of character designs as being inherently connected.

"There's a natural intuitive progression into anime, into character designs and drawings. But before you know it, someone will want to use that for animation. I don't really think 'I want to work on anime character designs'. It just happens naturally and organically." He explains, "It comes from a background in animation, so inside my mind there's movement. My drawings move and I try to capture them."

Artist insight

25 TIPS TO BECOME A BETTER ARTIST

Ever wanted to know the tricks of the concept art trade? Industry experts share their tried and tested creative workflow techniques

Artist PROFILE

Eddie Del Rio

LOCATION: US



Eddie's worked as a concept designer for the past 20 years in film and games. His clients have included LucasArts, Warner Bros., Fox Entertainment Group, Lucasfilm, Disney, THQ, Activision and 2K Games. These days, Eddie works primarily from home with his family in California.

www.eddiedelrio.com

Time and time again I get asked what's my process. Truth be told, I don't have just one process. Instead, I use a tool box that's full of techniques. It helps to save time and create a smooth flow of ideas.

Generally, no two assignments are the same. They're not cookie-cutter tasks. They require different moods, design, creativity, touch and feeling. After a while you figure that out and you pick the best tools for the job.

So, for this article, the ImagineFX team asked me to share several tools from my creative box. I'll show you how I use them individually and in tandem with others. Sometimes one technique works well for something, while other times you'll need the whole arsenal of tools and tricks to make the image sing and hit the deadlines. Okay, let's begin!

PART ONE: QUICK SKETCHES

1 PAINTING FAST SKETCHES FOR FUN

I spend about an hour on each one of these guys. Fun, simple sketches like these can be cranked out and help to fill out a portfolio. Try and take some time out of a day or evening, and do a quick colour sketch now and then. You may not always be happy with the final piece, but there's a good chance that you'll have learned something new during the image creation process – and you may even produce a decent portfolio piece out of it to boot.





2 SELF-PROMOTION TOOL

As well as having experimental, high-energy pieces interspersed throughout your portfolio, you can use them as a handy calling card for a spot of self-promotion. After you've produced a piece that you're happy with, add it to your online portfolio. Then roll up your sleeves and get busy on social media. Hit all the outlets: Twitter, Instagram, Facebook and more. Remind people that you're still making art. Artists can't always show off their client work because of NDAs. Personal pieces go a long way towards maintaining your online presence.



3 FLESH OUT A VARIETY OF STYLES AND CONTENT

Here's another reason to produce some quick sketches. Perhaps you've heard from a friend that a project's coming up and you'd like to show you're capable of working in that genre or style. Do a sketch to show that you'd be a good fit. It doesn't need to be on the nose as far as content is concerned – just something that looks like it would fit in that particular world. There's a chance the art director will see it and think that you're a good match. If not, no matter – you still have another quality promotional piece to use as you see fit.

> “Personal pieces go a long way towards maintaining your online presence”

»



4 LEARN TO BECOME A GOOD STORYTELLER

One good thing that these quick sketches force you to do is think about storytelling. For this piece, I didn't know what I was going to paint before I started. And I'm sure I spent the first 10 minutes going back and forth on what the subject matter was going to be. But eventually I started to illustrate a corridor and some shapes in the background.

Because I was working so fast and loose I began to think about smaller facets of the story. For example, how I do I express these ideas in a very simple visual language? Here, the two characters outside are clearly together, while the character in the foreground is alone. The foreground character represents the viewer and the background figures are the mystery and the action. As the viewer, you're forced to walk into that microcosm of mystery. It's the drama and mystery that really sells this piece. All of this was conceived while I was working. It's pretty fun and adds a whole other layer to a piece that would otherwise have been pretty generic.

5 WALKTHROUGH OF MY PROCESS

Previously, I've described how I approach my sketch work. Here, I've broken down my sketching process into two steps. I kick things off with a basic block-in. I might have a prepared textural background that I pre-paint or I'll just paint it during this step. Then I add the larger shapes and start to work out the composition and the story in the scene. The textures that I paint give the illusion of more detail present in the image then there really is. Some stuff like the figures are just scribbled blobs at this point.

Now that I have my story planned out, I begin to fully realise it.... or realise it just enough so that it's clear to the viewer. I add some lighting breaking through the tree foliage. Well, foliage that you really don't see. You only have the light hitting the ship and the small little clump of tree foliage in the foreground to inform the viewer of the space that's outside the picture frame.

Little design tricks such as this add scope to something that, on the surface, is pretty simple. The viewer's mind then works to fill in those gaps with the little hints and bread crumbs that I leave for them. I let the viewer's own imagination do some of the heavy lifting. As a result, they also feels more committed to the image and the story that it's trying to tell.



PART 2: PHOTOBASH

1 START WITH A STRONG SILHOUETTE

This image of a mech seen at an imposing angle may look like it was modelled and rendered in a 3D program, but it was actually photobashed together. I began by getting hold of a large collection of photographs of mechanical objects – some that I had taken myself. Then I fired up Photoshop and sketched out the silhouette of the mech. Only when I was happy with the general shape and design direction did I reach for the stack of photos. After that, I transformed and colour-matched elements from my photos to fit what I wanted. This image took between three and four hours to create.



2 USING PHOTOBASHING TO MAKE SOMETHING MORE ILLUSTRATIVE

Although it may not look it, there's a ton of photobash work here – about 80 per cent, I'd say. But it's heavily painted on. I start by laying in images almost immediately... almost designing with them. While I'm laying in images and bashing them together, I'm also selecting light and dark areas, and painting into them. I'm after the detail and texture: I leave out what I don't need and push the shapes that support the composition. For some parts I want lots of detail; elsewhere, I'll blow out the light values. This image contains dozens of elements from photos. You can see them on close inspection, but at first glance most people think it's a fully painted piece. I often use photobashing to a lesser degree in my art, towards the end of the painting process. It's an effective way of introducing a layer of texture to a scene.

This method works for me because I know the basics of painting. Photobashing enables me to expand on my core art skills – it's not a shortcut to becoming a good artist. It takes a lot of practice to use photos this way. »

> **“Photobashing enables me to expand on my core art skills – it's not a shortcut to becoming a good artist”**

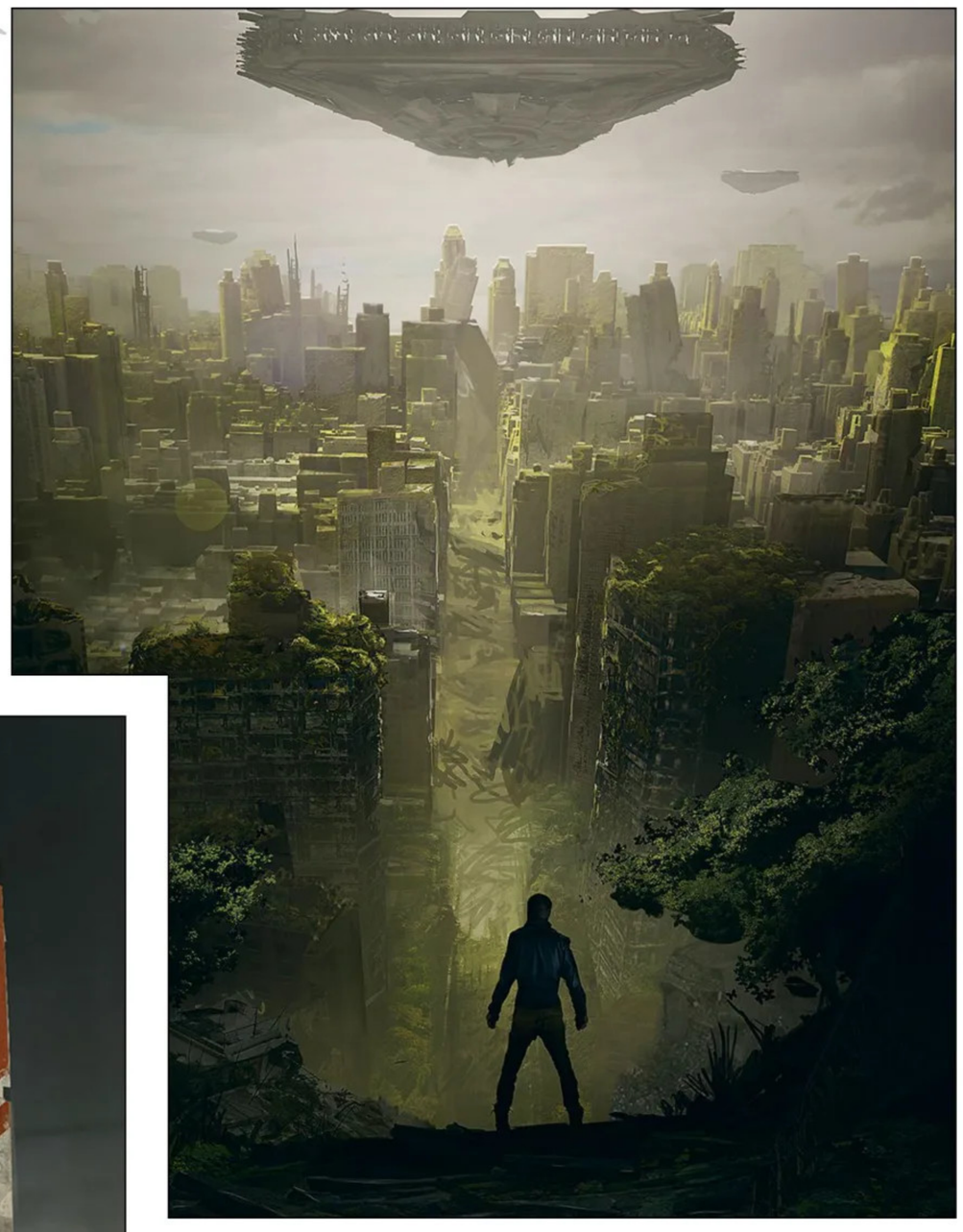
PART 3: USE 3D TOOLS FOR CONCEPTS

1 USING 3D TO DEPICT HARD SURFACES

For spaceships, vehicles, mech designs or in fact anything mechanical, I tend to use 3D tools. They enable me to design from multiple angles, and ensure that the finished work has a clean look. The art will be more precise, with sharper edges compared to the painterly results from using standard 2D tools. In addition, I can design the object from multiple angles, knowing that nothing will end up being fudged. It's going to be accurate. I like to see that in mechanical designs.

2 REPETITIVE ARCHITECTURE

Similar-looking buildings or architecture from dramatic angles is another reason for using 3D tools. Even if I'm going to end up painting on the art, it'll save me time if I model instead of drafting and plotting everything in 2D. Examples include rows of columns in interiors or building blocks in a street scene. 3D tools will boost your workflow in these assignments.







3 CREATING ASSETS THAT WILL BE USED ACROSS MULTIPLE IMAGES

Another reason for using 3D is if an asset is going to be used in a range of images. I spent a week or so designing this racing mech in 3D. I began with some rough 2D sketches, modelled the design, asked for feedback from friends and did multiple revisions. I was happy to spend this time up front because I knew I was going to use this asset across multiple images, and that having a fully formed design at the start would save me time later on. For example, take the reflections on the mech and the decals on the design. Achieving that look with just 2D would be a challenge.

> **"I was happy to spend this time up front because I knew I was going to use this asset across multiple images"**



4 USE 3D ASSETS TO CREATE KEY FRAMES

Thanks to the pre-designed mech asset, it took me just under a day to put this scene together. This is one of six key frames that I developed featuring the mech. In the end, it speeds up the creative process – important when it's your IP and you have to do everything in your own time!



5 CREATING COMPLEX INTERIOR ARCHITECTURE OR MECHANICAL DESIGNS

This design was going to be pretty complicated with all the pipes and gears in a 3D space. To help save me time I modelled the scene in 3D and even lit and rendered it. All those pipes and railing would have been a pain to replicate in 2D, as well as taking time. But using 3D tools helped me to complete the scene quickly. The room is largely symmetrical so I could just mirror the geometry, and the rest is a lot of duplicated pipes. »

PART 4: TEXTURES AND ENVIRONMENTS

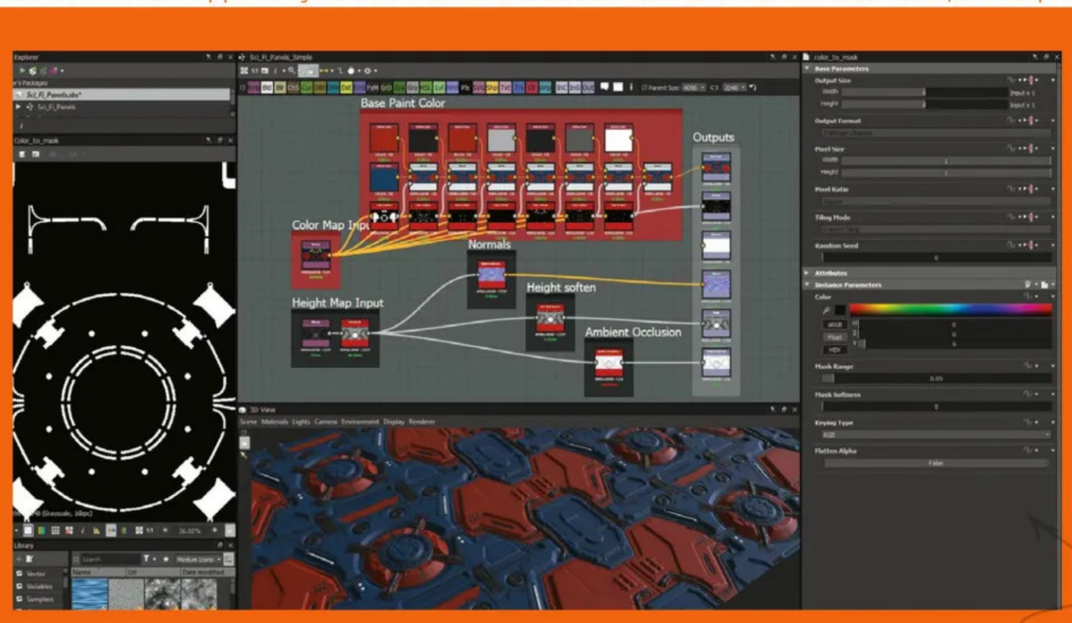
1 CREATE HEIGHT AND NORMAL MAPS FIRST

The Height map is the key to accomplishing good game materials. All the information extracted to create the Normal, the Albedo, the Roughness maps etc. relies on the completion and polish of the Height map. With current game engines, height is mostly used for blending materials and needs to be set with a realistic scale to get great results.

2 WORK BY ITERATION

As a game artist, working iteratively from large to smaller shapes is fundamental. It's true for materials, but it's also true for modelling and level art. Creating a block out, with grey box assets, is always the first step in the completion of any environment. Then, once your composition is working in the big picture, start to iterate and add more details layer by layer.

Screenshot below supplied by: CHRIS HODGSON Senior material artist artstation.com/christopherhodgson



3 REAL-TIME AND GAME FRAME RATE

The approach to texturing depends on the type of game. If it's a first-person shooter you'll have to add Detail maps to your big surfaces to keep consistency in the texel density, as players can be close to every asset. If it's a third-person game, focus more on the overall surface and diversity. Texture IDs are limited by objects in real-time engines, so compromising between visual and performance elements is important for the frame rate.

4 LEVEL ART MEANS TEAMWORK

Working hand in hand with modellers and level designers is mandatory when creating the environment. Discussing the best techniques, making breakdowns and organising your UV Layout together will help you to share the same vision. Defining the amount of textures, which pieces are going to use tileable materials, how many trim textures are necessary, etc. all needs to be decided together to have a seamless workflow.

5 ORGANISATION LEADS TO EFFICIENCY

While working in Substance Designer, creating components in multiple sub-graphs will greatly help you to organise your materials and the structure of your main graph. When you work as part of a texture team, it becomes easy to open up files to extract and share elements such as leaves, pebbles, branches, etc. Working this way will speed up your creation process and production rate.

TIPS SUPPLIED BY: JONATHAN BENAINOUS Senior texture artist artstation.com/jonathan_benainous

6 GAMEPLAY FIRST

Gameplay and playability should always have priority over art and composition. That's why it's important to have artists involved early in the blockout phase. Working with level designers is key. Colour and lighting serves both aesthetics and level design. Bright, saturated colours often lead the player or differentiate areas..

7 BASICS FIRST THEN FOCUS ON KEY SKILLS

Master one 3D package first. Get good at modelling both HP and LP, understand how UVWs work, composition, colour and lighting. Later, focus on what you enjoy most; that can be hard-surface modelling like weapons or vehicles, sculpting (terrain, skulls), texturing, writing scripts and plugins or shaders (technical artists).

8 WORKING ON MAPS

As an environment artist, focus on the overall scene, composition and layout. Your first read looks at silhouettes and shapes, your second read is about adding props and details, and the third read is the little high-frequency things the player sees close up. Easy-to-read layouts are very important for multiplayer levels.



> "As an environment artist, focus on the overall scene, composition and layout"

9 TECHNICAL SKILLS

It is not only your artistic skills that are important as an environment artist. Try to understand how the engine you are using works. Texture streaming, LOD system, memory, draw calls, poly count limitations – all those things need to be kept in mind.

10 PREPARATION IS PARAMOUNT

The preparation phase is important. If you don't have a concept to rely on, then you should gather reference images, prepare some quick modular proxy meshes and assemble them in the game editor. Think about what parts need to be a unique mesh and where you can use modular kit pieces.

»

TIPS SUPPLIED BY: ROB HODRI Senior 3D/environment artist, id Software artstation.com/robhodri

PART 5: BRINGING IT ALL TOGETHER

1 FRAMING THE ACTION

Here, I wanted to do some fan art from a sci-fi children's show. I knew I didn't want to spend more than a day on it. The piece I had in mind was pretty epic, so I had to think how I could effectively develop the frame.

First, I did a quick sketch that conveyed the energy, the basic story premise, all the big elements and the overall composition. Then I got some photos and began taking out bits and pieces, comping them in while painting and editing the piece. After that I looked at the big mech and Kaiju battling in the background, which was still pretty sketchy. Because it was the focal point I felt I could get a lot of bang for my buck if I modelled the mech. I didn't spend too much time modelling: it was all blocks and cylinders.

Then I photographed the actual toy of the mech and overlayed that photo on to the front of my model. It wasn't perfect, but it worked fine for me. I posed it quickly and then rendered it. I must have spent no more than and hour or so on the mech. I decided that the kaiju could be painted up a little more than the sketch I did at the beginning.

I was about to call it quits, but then felt the chaos of the foreground elements was fighting with the flow of the image and distracting from the focal point. So I decided to add the bird fighter flying into the image, which I quickly modelled in my 3D package. I added it to the frame and painted the blue energy thrust. The fighter helped with the flow, directed the viewer into the focal point and framed the action – all at the same time!



2 FROM SKETCH TO FINISHED ART

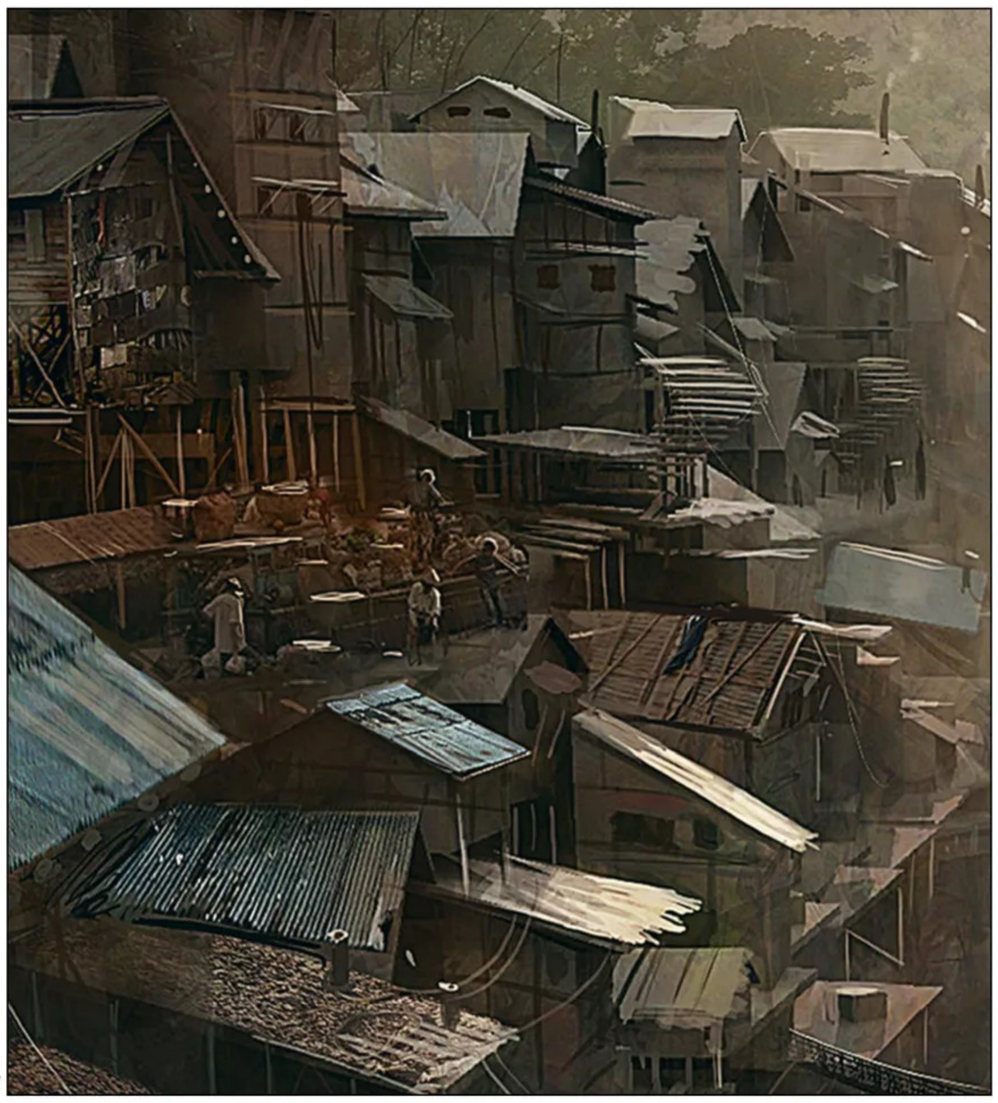
How to consider focal points, storytelling and detailing in this epic sci-fi scene





A Getting the basics down

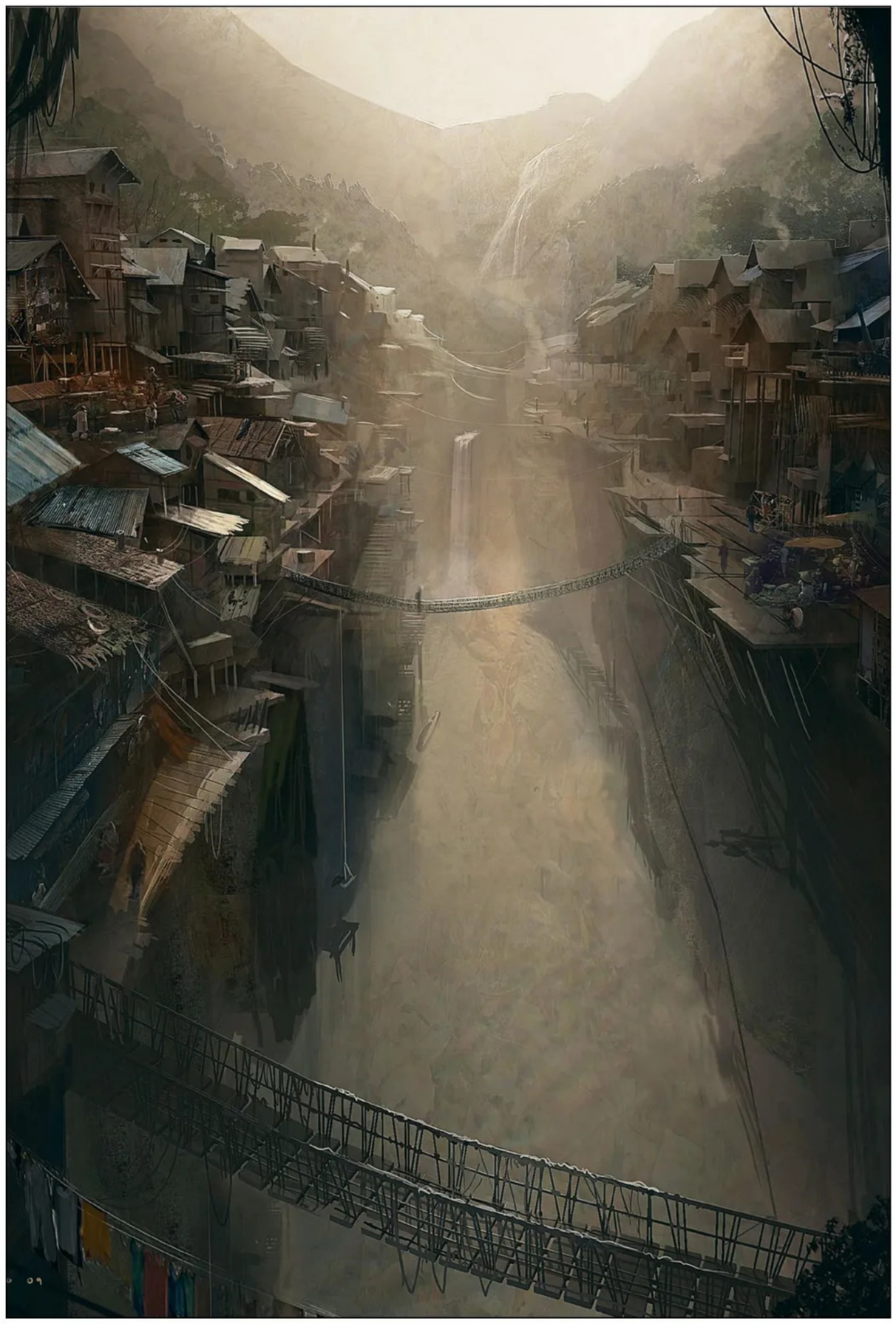
I lay down a fast and quick background, mostly to establish the palette and the general directions I want to go. This step prompts me to ask questions, such as what do I want to accomplish with this piece, and identifying the story I want to tell. Now I begin to answer the question of story. I choose my focal point and begin to build the scene.



3 GOING LIGHT ON PHOTOS

This piece was done primarily in 3D in the early stages. I then painted some values and some other large-scale details. But for the finer details and texture, I used photos. You can't really see them, but they're there. This was done more to add texture, creating the illusion that there's more detail than there is.

"For the finer details and texture, I used photos. You can't see them, but they're there"



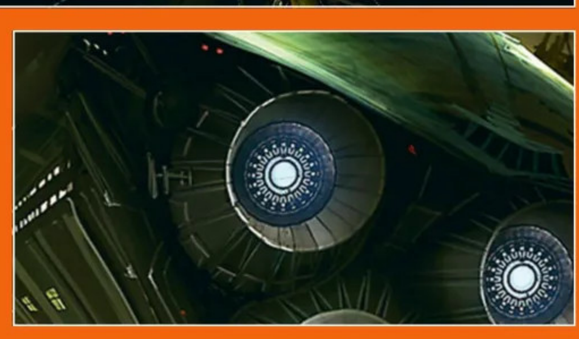


B Think about little story moments

I start to think about how people will interact in this world and begin to add smaller details to help define objects in the scene. This is definitely the fun part! You can bring in all kinds of little story moments to help enrich the composition.







C Ensuring clarity throughout the scene

Now I just finish up the piece and begin to add more details and make sure that the image has a clean read. The viewer's experience is key!

Photoshop

REIMAGINE A VIDEO GAME CHARACTER

Even Mehl Amundsen takes the iconic Link, of The Legend of Zelda fame, and updates his look while remaining true to his gaming origins

Artist **PROFILE**

Even Mehl Amundsen

COUNTRY: Czech Republic



Norway's Even has studied art in Oslo and Falmouth, England, worked for Canada's Volta games studio for three years, and he now freelances from Prague.

http://ifxm.ag/evenma

The idea for this piece is to try and flesh out the character of Link and get a look at what he would look like in a gruffer, starker reality.

Because Link is used as somewhat of an avatar for the player in Nintendo's classic The Legend of Zelda – and he is mute most of the time – it's pretty tricky to get under his skin. So I also want to try and imbue the character with some aspects of personality that make good sense to me.

I really want to make my Link stand out from other versions that I've seen. So on top of his usual equipment I plan to take some inspiration from old games and comics, and make him the adventurer I have in my head. To do this, I'll try to apply details that will develop the character: for example, his armour and weather-beaten face. For this workshop I'll take you through a step-by-step explanation of my process, and give you some tips and ideas on how I work.

In treating Link as a piece of character art, a lot of elements are already set because there are certain elements that need to be on the character, and so from that standpoint I'm a little limited. But I can play around with his arms and armour, as well as posing and lighting. So, focusing on these, I try to add enough differences between earlier versions of Link and my own, without straying so far off that he wouldn't be recognisable to gamers as their Hero of Time.

Shortcuts

Switch Lassos

Alt (PC & Mac)

Pressing and holding Alt after setting a first point with the Polygonal Lasso tool enables you to lasso freehand.





1 Getting the ideas out

After talking it through with the guys at ImagineFX, we land on doing Link as a character-centric piece. So I begin by working up some interesting line sketches to get my ideas down. I do three iterations, working with the idea of drama being the greatest in the moment right before, or right after, impact – as it leaves the mind some room to play. So here is Link: charging and dodging, having kicked some arse.

2 Tightening up the lines

We choose the first sketch and after a few alterations to his pose, I tighten up the line work – I like to work with clean lines. This is also a good chance to put in some details on the character. In addition to Link's normal gear, I figure he would probably keep the sword from his childhood, even if it only serves as a dagger.



PRO SECRETS

Taking breaks

I usually try and take a break every other hour, to stretch my legs and hands out, which is good for preventing tendonitis or cramps. It's also a good idea to switch up your grip when drawing and painting, for the same reasons. It can be very helpful to find other ways to hold your stylus, as you would with classic painting and drawing.



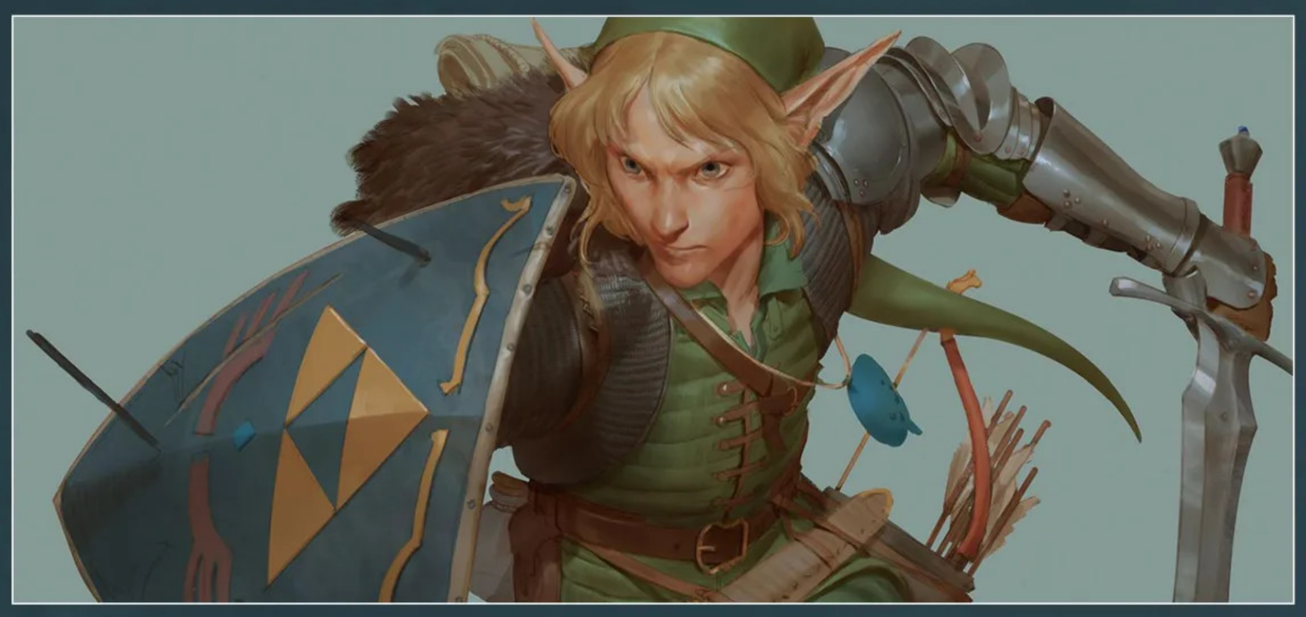


3 Putting colours down

I like to break my process down into individual problems that are fairly easy to solve. I focus on getting them right one by one. Lines done, I lay down flat colours, not thinking much about anything else other than getting a palette that works for the character – although the palette for Link is mostly already defined.

4 Working up the shapes

I want to define some shapes, starting with larger ones and moving down to the smaller one. I do this using a Hard Light layer, and painting in my dark values with warmer hues and lighter values with a less-saturated, cooler hue. I concentrate on shapes reading correctly, and try not to worry much about details at this point.





5 Laying in more values

After the first value pass is complete, I go in with a Multiply layer to generate more definition, and try and push the character towards a value read I find appealing. Again I paint with warmer hues. I also attach a white layer over the flat colours from earlier, that I toggle on and off, to get a second read on how my values are working.

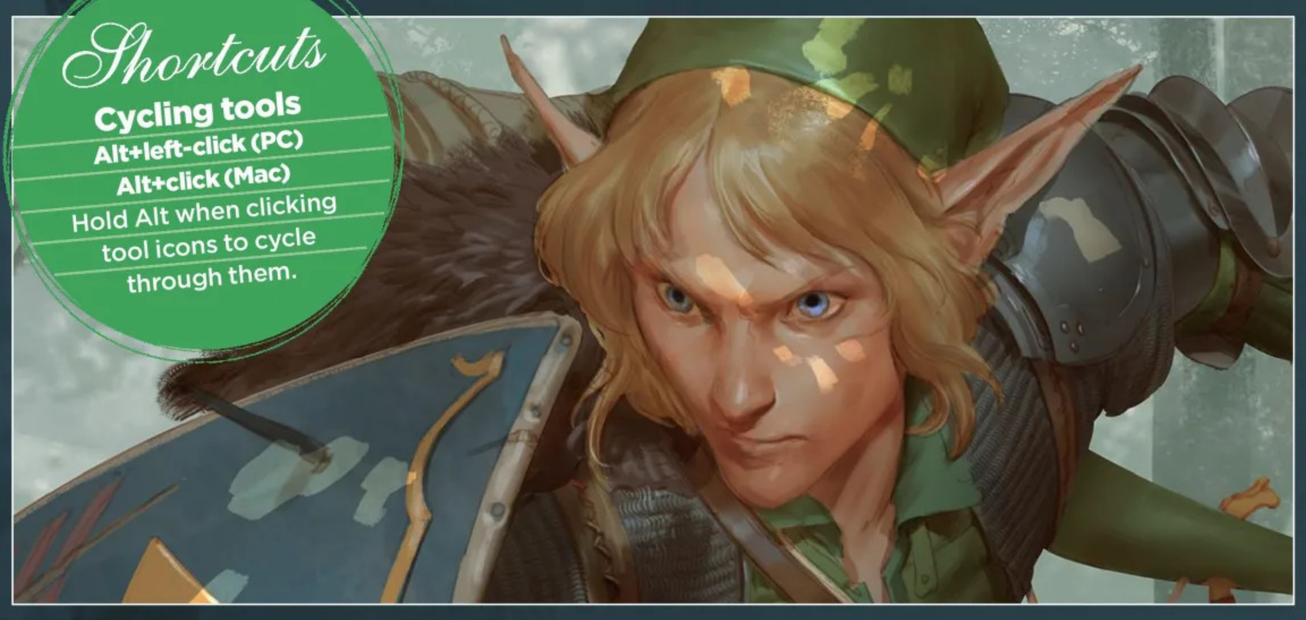
6 Adding the background

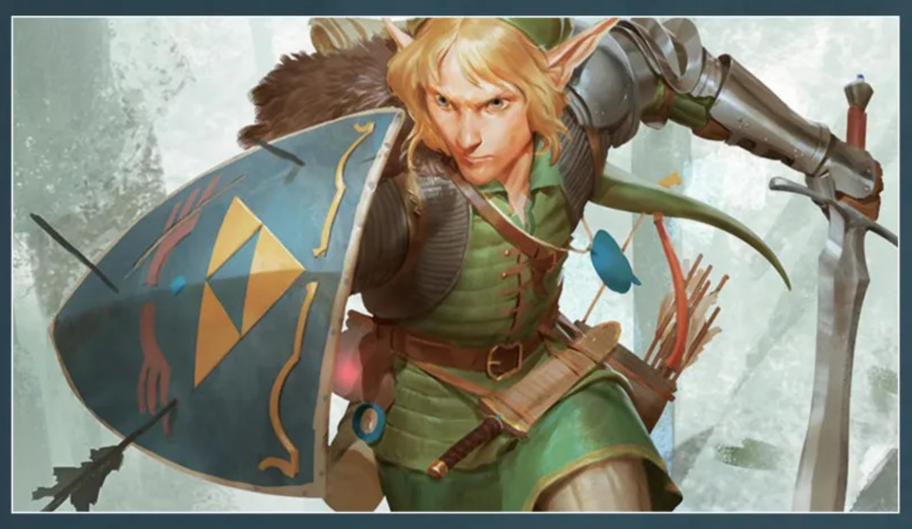
Now the character is coming into its own, he needs some context. I want something that won't take attention away from the main character, but will still add something to the piece. I decide on a woodland landscape – familiar stomping ground for our hero. I love the idea of him sprinting through the forest, taking on an unseen foe.

Shortcuts

Cycling tools

Alt+left-click (PC)
Alt+click (Mac)
Hold Alt when clicking tool icons to cycle through them.



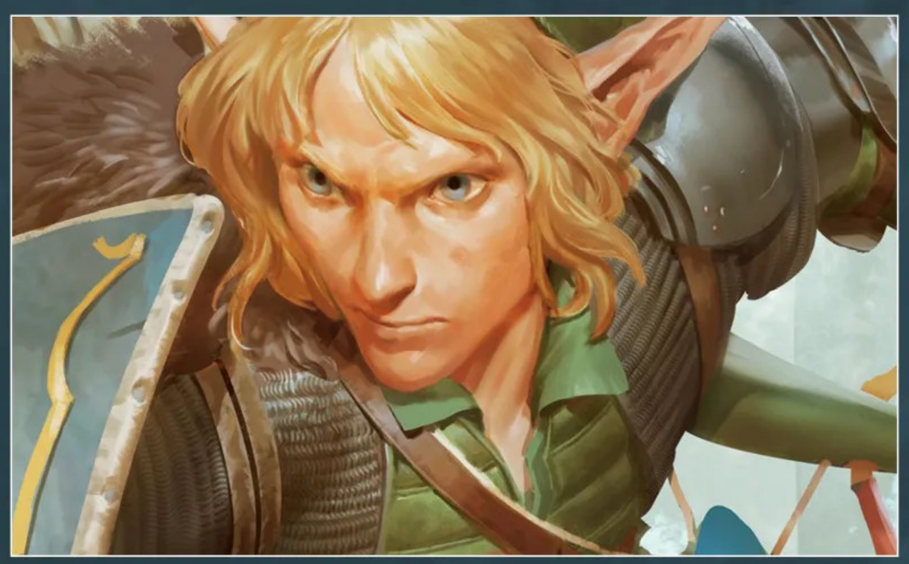


7 It's dark in the woods

Initially the idea is for light to be coming through the foliage hitting Link sporadically, with a dappled effect. But the ImagineFX team decides against this approach as it makes it difficult to achieve a good, dramatic read on the image and results in the piece feeling too mellow. Instead, the idea is that Link has just passed into a clearing to engage some enemies.

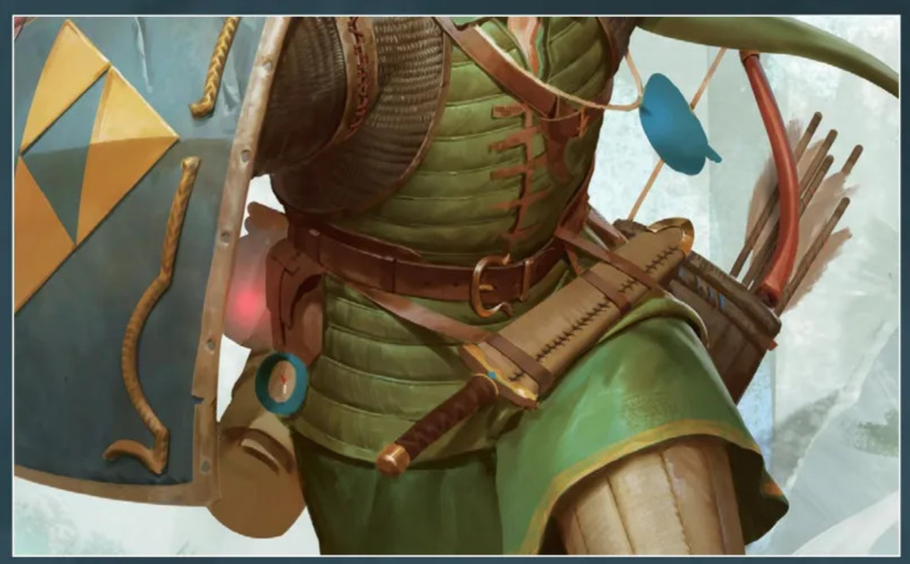
8 Let it be bright!

I brighten the piece, using a Brightness/Contrast adjustment layer and attaching a Layer Mask to it, so I can brush the adjustments in but leave key areas as they are. There are a myriad ways of doing this and the best approach depends largely on the lighting situation, so it's always worth exploring different solutions – you might even find new techniques!



9 Adjusting the palette

Now that the lighting is sorted out, I need to go back and give the colours some revision, because they've become a little desaturated in the brightening process. I use a Color Balance layer, adding more warmth back into the shadows and giving the whole piece a little warmer overtone. I also do the first rendering passes on foreground and background.



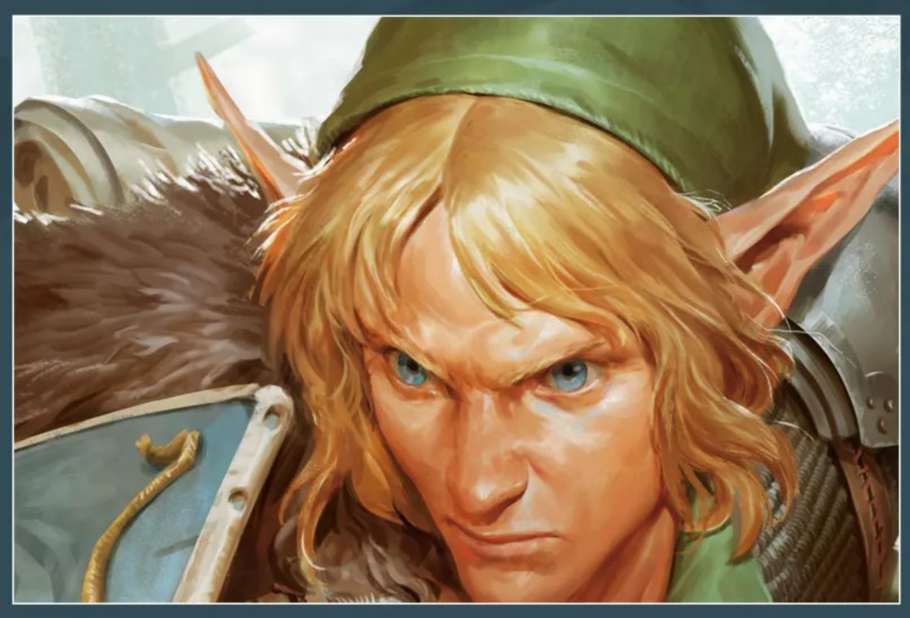
10 Bringing in the details

Now that everything else is nailed down, I start on details. I define the objects, ensuring different materials read correctly. This takes a lot of time and a good bit of use from the Lasso tool, which generates some clean selections that I can paint within, making sure I keep my edges. I use the Pen tool for specific selections that are too intricate for the Lasso.



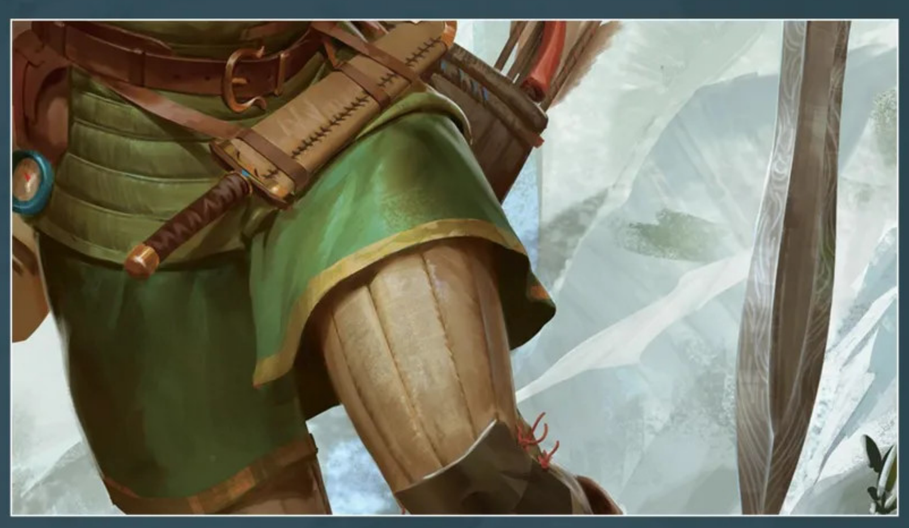
11 Weathering pass

I add hints of wear and tear to the character, although I don't want to do too much. I add some dings to his armour and mess his shield up a little. I add some patterning to the sword, to imbue it with a little real-life magic, because the patterning is that of Damascus steel, which I think is appropriate.



12 Spit polishing

I leave the image alone for a few hours, to let my eyes rest and then come back with fresh ones. I'm not thrilled with the face: while it serves the purpose it feels a little impersonal – I find that it's not quite emotional enough. So I give it another pass, add a little life, a little anger to it.



13 Losing edges

Sharp edges in the wrong places can easily lead the eye somewhere you don't want it to go. I go around the edges with the Smudge tool and a Scatter Brush, scattering edges, then smoothing them out again with a Smudge-Round brush combination. I also use the Mixer Brush tool, to bring some colours from the environment on to Link.



14 Adding filters

At the end, I add a filter or two, to pop a few things. With the noise filter I add a small amount of noise, to make the image easier to look at. Next, I go into Lens Corrections, under Filters, then to Custom bar and play with the Chromatic Aberration sliders, to get some vibrance along the highlights and edge-lights.
That's all folks!

WORKSHOP BRUSHES

PHOTOSHOP

CUSTOM BRUSHES: AUFGENOMMENER PINSEL 1



This slightly textured chalk-style brush is my go-to tool for most painting needs. It's very versatile.

SUBTLE COLOR RANDOMIZER



This brush can be used for some subtle colour variation, but in this workshop I used it to obliterate edges.

CHAINMAIL



I seldom use specific texture brushes, but chainmail I will use, and this one does the job quite well.

ROUND HARD 70 1



The old Round brush can pretty much be used for anything, though here it was used for lines.

PRO SECRETS

From general to specifics

Always try to work from general shapes and elements to specific ones, at least when doing work other people will have final say over, as this will save you a lot of trouble in the later stages of a piece. In addition, breaking any problem down into steps that you can manage will make it a lot easier for you to organise the complex elements of an illustration. To sum up, planning prevents poor performance!

Photoshop & Blender

TURN AN IDEA INTO A STRONG CONCEPT

Lucas Staniec uses a brainstorming technique to flesh out a loose idea for a concept, before taking you through his 3D and 2D painting process



Artist **PROFILE**

Lucas Staniec
COUNTRY: Poland



Lucas is a concept artist working on Dying Light 2 as well as a freelance artist on the Warhammer 2 Total War series. In his free time he's developing some personal projects, including a bestiary of Slavic monsters.
https://ifxm.ag/lucas-s

As you consider pursuing the path of a concept artist, you'll no doubt be assessing the quality of your art skills. Yet one of the most important things you'll need is not a specific technique in your artistic box of tools, but rather the right mindset.

As a concept artist you'll be required to deal with a lot of problem solving. To do that, it's crucial to observe the world around you and try to understand how things work. Not only will your designs be based on the things we know, but you'll be able to use your awareness for inspiration. Knowledge will help you geek out about your own designs and make them better. Put simply, the more you know, the better!

Creating a good-looking picture can be challenging, but what you might find even harder is coming up with a good idea or design that could serve as a starting point. This could lead to an original location, a complex piece of machinery or even an entire universe.

The design process is time consuming. As a concept artist you'll have to do hundreds of exploratory sketches before that 'eureka' moment. Your job will require you to do things over and over again, so brace yourself! I'll show you how I get inspired and how to proceed with a concept illustration task. I'll also give you some insights into what to pay attention to in your own work.



1 Recognising the marks of history

Staring at a blank page can be frustrating. So I pick one topic that I love: history. I take some photographs of building that show the effects of gunfire from World War II. These marks tell me stories about the locations, and I immediately try to imagine what these places used to look like. I'm inspired to show the passage of time and loss.

PASSAGE OF TIME (GENERAL IDEAS)

People and technology will always lose when pitted against time and nature.

Ruins of a city with an astronomical clock.

Man kneeling down, acknowledging the power of nature and the achievements of previous civilisations. He's less skilled than those who came before him, yet he's the master of his environment. He holds a cog, which symbolises thought and serves as a visual link to the clock tower.

Astronomical clock represents both technological advances and time itself.

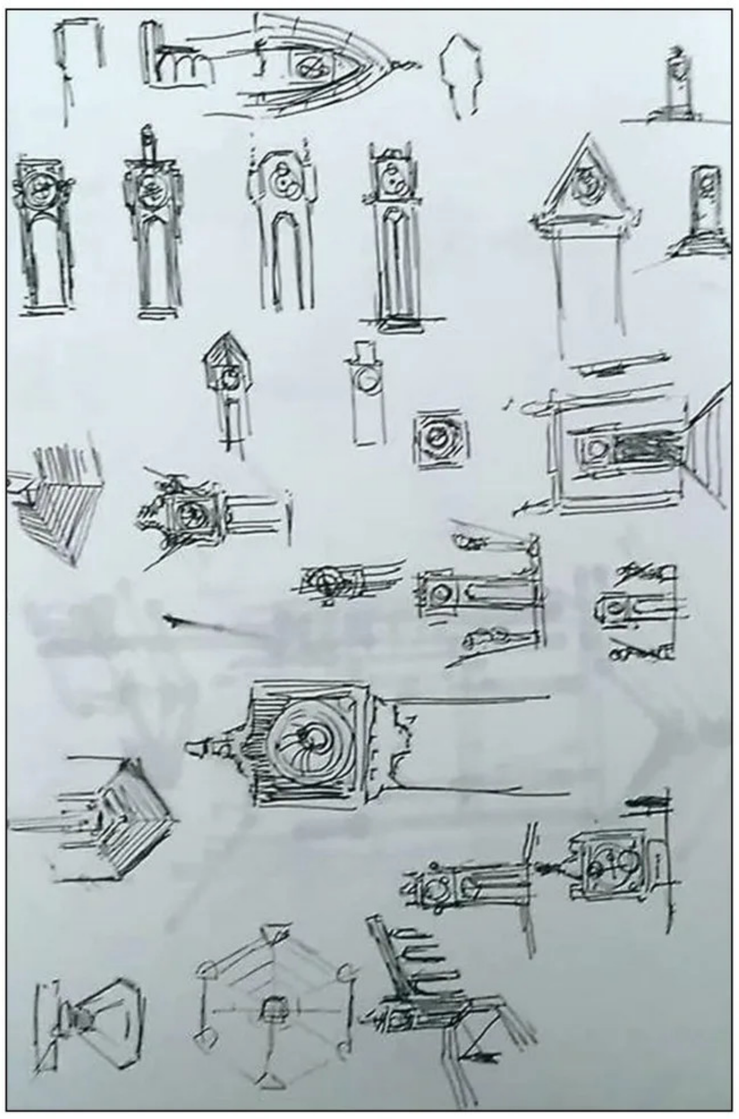
Trees symbolise long life and nature reclaiming the environment.

Connection between man and the clock, indicating that humans will endure no matter what their circumstances.

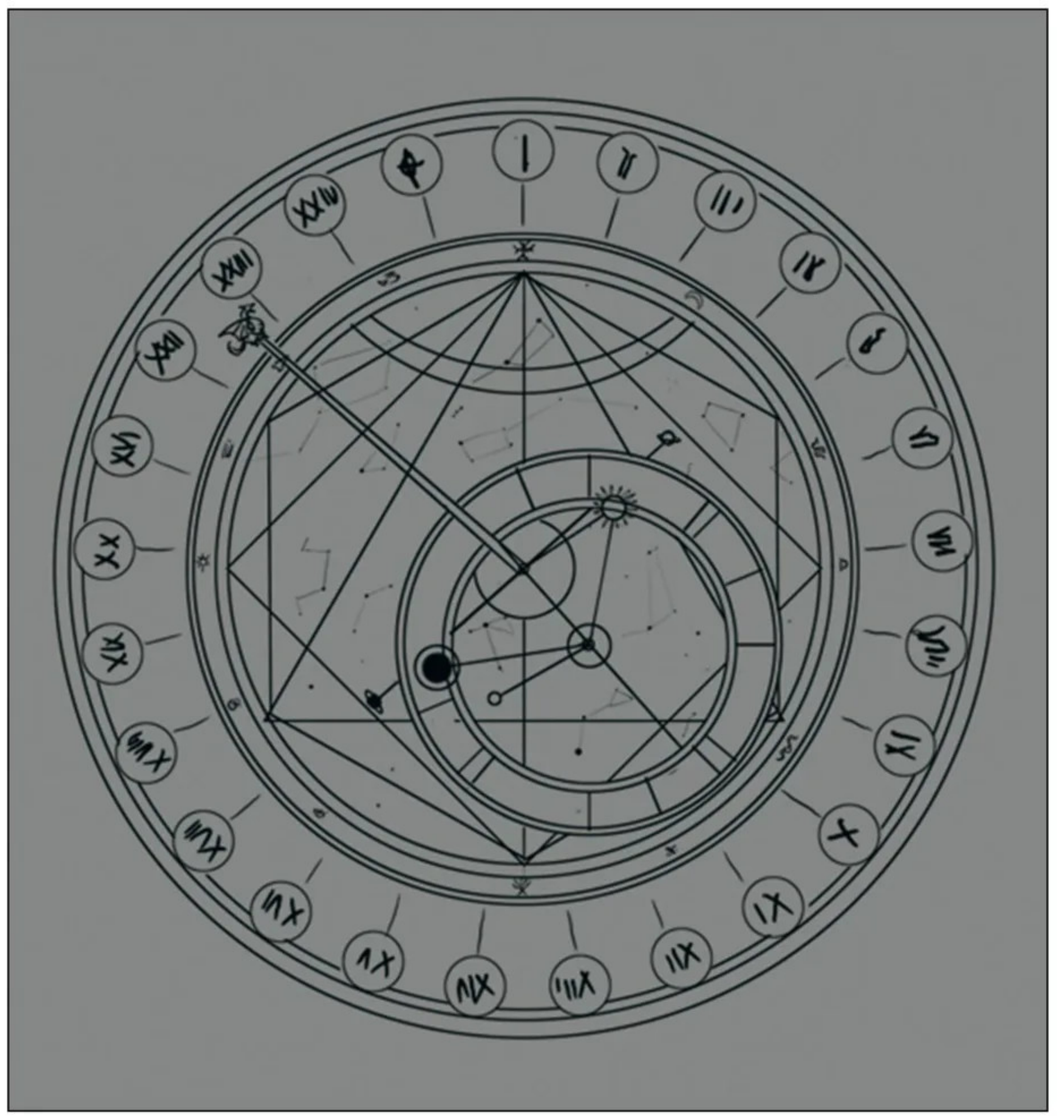
Environment feels familiar – connects the viewer with nature,

2 Creating a mindmap to visualise my ideas

I spend a fair amount of time trying to figure out what I want to show. I write down notes to help me get things moving in my head. They enable me to come up with a specific idea to show that humans and technology will be always overpowered by nature. However, we're always a part of this planet (nature continues to feel familiar).



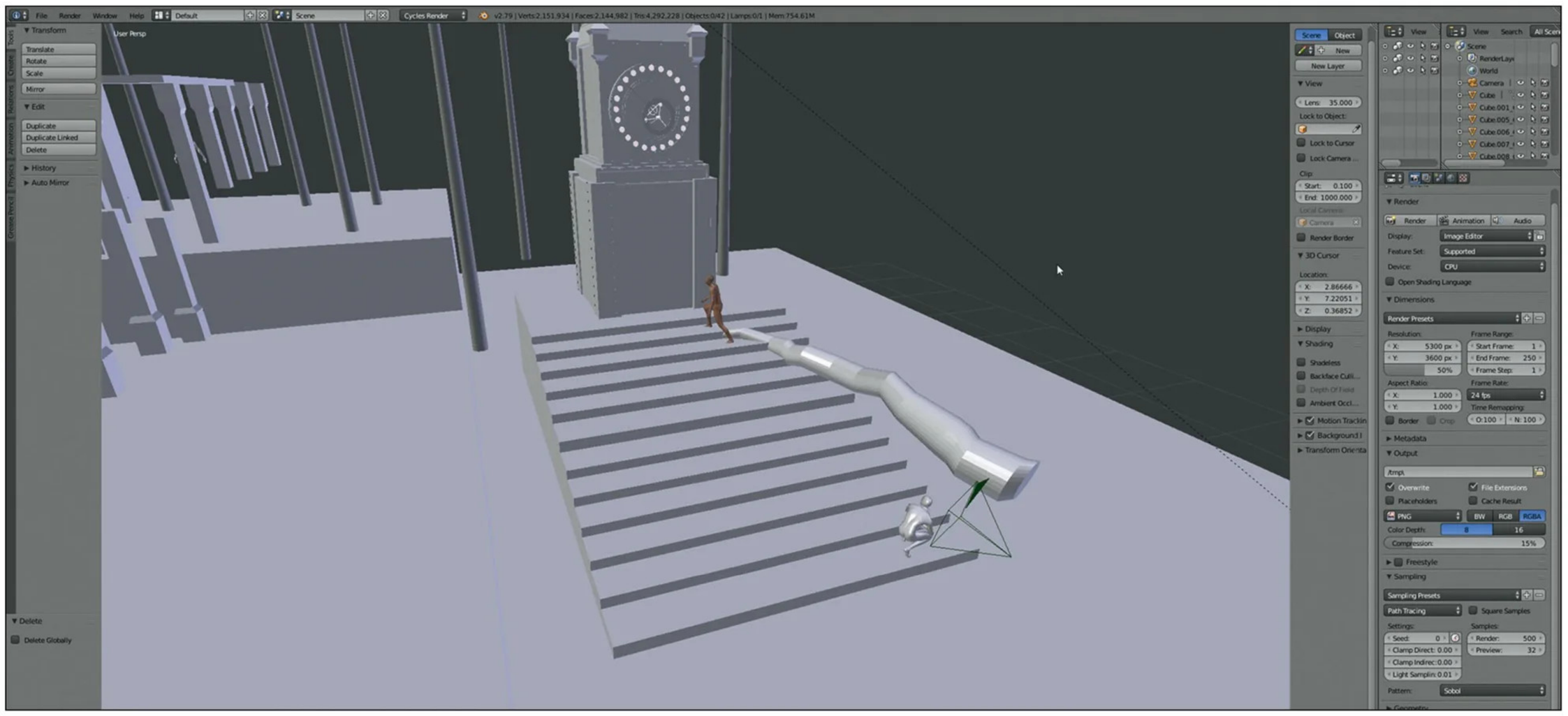






3 Sketch out the story elements

I produce some rough sketches. I decide to show an astronomical clock rather than just a simple clock face. The device not only is a representation of time but also of human advancement, because it identifies the position of the sun, moon and planets. For the main design of the clock shield I combine three different clock designs and try to give it a backstory. I know that the clock will be the main focal point. »







4 Begin modelling in 3D to obtain the best viewpoint

I model the clock in Blender. I do this so that later I can adjust the final composition. I place the camera low on the ground to show the clock looming over the figures. If I wanted to draw this angle in 2D software it would take me ages; working in 3D means I can adjust the camera as much as I want. Next, I take the composition into Photoshop and set the light as Directional Soft Light, to give the scene an overcast feeling.





5 Develop contrasts within the composition

After I've chosen the background colours I adjust the contrasts for different planes to ensure there's a clear division between them (you can accurately check the values by selecting View>Proof Setup>Device to Simulate – Working Gray>OK. The shortcut for that is Ctrl+Y. Once I'm happy with my values I add some shadows to the right-hand wall of the tower, to describe the forms better.



6 Start photobashing to save time

When time is of the essence you don't want to paint everything from scratch. I chose to use some photos I have of an autumn forest – I feel this time of the year would perfectly highlight the passing of time and things coming to an end. Remember to think about the perspective and light information that photos carry, and how they may be different from what you already have. You want your painting to look consistent!



7 Painting over elements

Now it's time to start painting over these textures. As I lay down my brush strokes I think about the shapes I'm creating and level of detail I'm suggesting, and how they interact with each other. You want these factors to support your composition. Some forms will need simplifying. I'll be overpainting and checking contrasts from this point right up to the end of the painting.



8 Refining the forms of the clock tower

I tend to jump around the canvas as I paint, moving from one part of the painting to another. At this stage the background is locked in, my main character is dressed and general contrasts are in check. It's the perfect time to paint over the photos I used earlier and describe the forms a little bit better by creating highlights. Remember it's overcast, so surfaces facing up will feature highlights. »



9 Detailing the main character and adjusting his beard

I spend some time painting the main character. I try to keep him visually subtle; the thing that should pop is the metal cog. I don't like how his beard was covering some of his arm. It was a flat and uninteresting shape, so I shorten it and create an engaging negative space.







10 Build up a sense of tension and visual interest

I add a spear to help the composition. The spear, along with the other figure's spear, develops some tension between the two of them, separating them from the forgotten and organic world. This spear also helps to ground him in the scene.

11 Adding trees for greater depth

Now I go around the canvas and paint over the textures I applied earlier. Sometimes I try to add more, but generally I try to balance it out. I modify and add shapes to enhance the general composition, such as trees behind the tower. They help to add some depth to the painting and guide the viewer's eye to the tower.





12 A leaf canopy helps to frame the composition and advance the storytelling

I want to give this environment a sense of being enclosed, so I add some leaves at the top of the image. The leaves also help to add a feeling of weight and drama, as if the scene is leading up to a specific storytelling moment. When I paint such supporting elements I always try to see them as shapes and how they relate to the entire scene. It's not an easy skill to grasp, so it may take you some time to get it right.



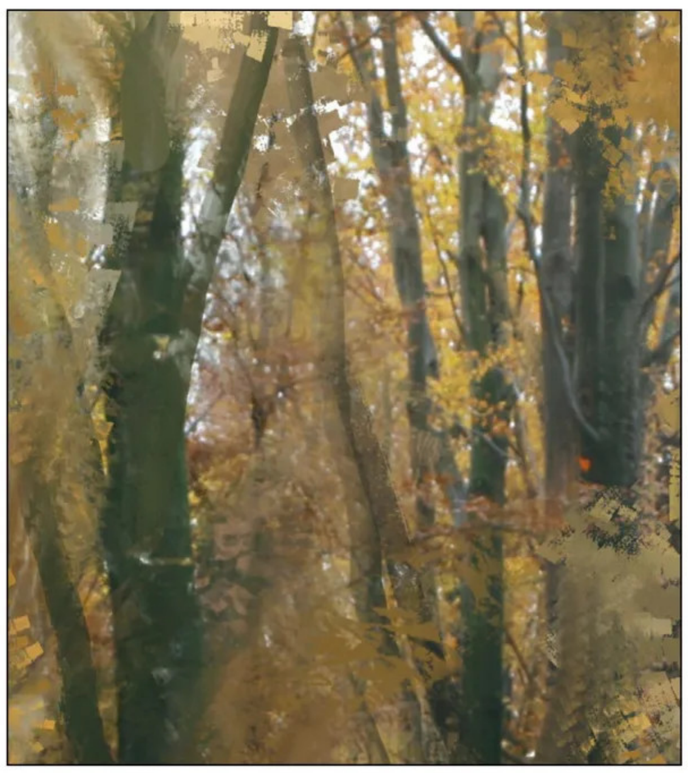


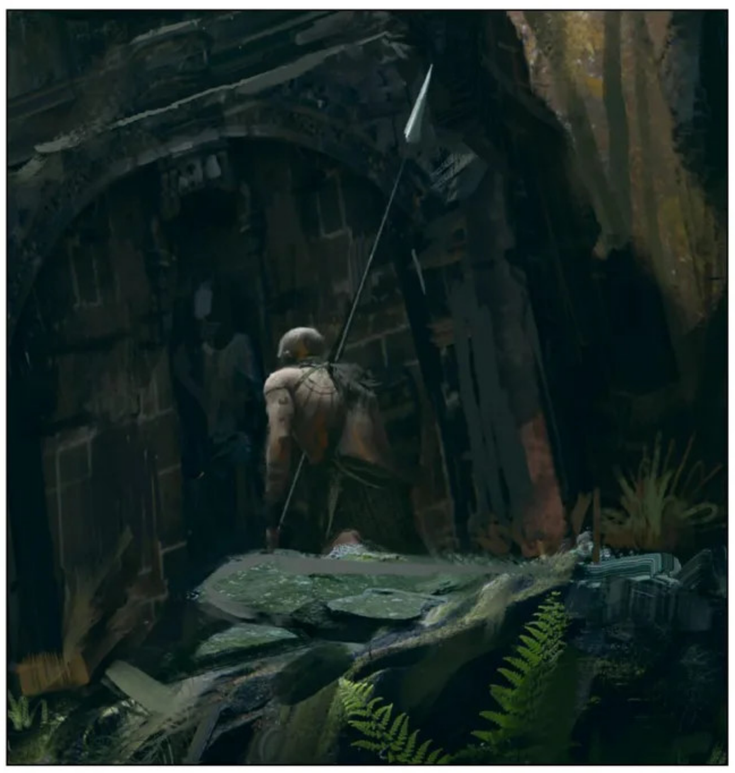


13 Time to paint the clock face

I refine the clock with the design I came up with earlier. I think small details like the clock shield give a greater sense of believability to your work. The more things like that you can add, the better. It's always worth spending time designing different elements of the scene before you start modelling or painting. Don't forget to add behind-the-scene sketches to your finished artworks on your website. It may help you get a job!







14 Final touches and correcting elements

I try to see what needs to be refined and what needs to be dialled back slightly. I add contrast if it's required, and play around with the Curves tool, adjusting the appearance of the trees slightly. It makes their colour pop just that little bit more.

Photoshop

BUILD A WORLD WITH CONCEPT ART

Anthony Macbain, an artist with over a decade of experience in the video game industry, demonstrates the process of creating entire worlds through illustration

»

Artist PROFILE

Anthony Macbain
LOCATION: US



Anthony Macbain spent 13 years as an artist and later director of illustration at Rockstar Games. He developed marketing art styles for Rockstar's top games including Grand Theft Auto V and Red Dead Redemption. He's now the lead artist at Triton City Entertainment, where he's working on the film franchise Dawn of the Paladin.
https://ifxm.ag/ant-mb

Worldbuilding encompasses storytelling. To build a world is to create a believable set of parameters for multiple stories to exist, taking into account geology, technology, language, economics, art, culture, history and religion. As a world builder, you need to provide enough content through extensive brainstorming, sketching and research to give storytellers or games masters a boundary and direction, but without being so broad as to leave them with too many options.

For this workshop, I'm creating an illustration of a character from a world I'm helping to build called Dawn of the Paladin. The story takes place tens of thousands of years in the future where a small group of peacekeepers called the Paladin are the protectors of a remote three-planet colony. They've developed a fighting style that utilises skills only mastered by accessing dormant areas of the human brain.

Unbeknownst to the Paladin, the powers they're harnessing from within their brains are being heightened by their proximity to an alien ore under the ground called Ouj (pronounced "weej".)

A new wave of organised crime has hit the colony's inhabitants, led by a character named Mogul, a mysterious and vicious warlord from a distant planet and part of an alien race called the Bawn. In this illustration, Mogul has sent a messenger to retrieve his estranged, yet even more powerful and diabolical mother, the evil intergalactic villain, Madrak. Due to Madrak's telepathic powers, the terrified messenger's arrival is anticipated, and she beckons him toward her.

Madrak is well aware of the properties ouj has to enhance her physical and mental powers, going so far as to create an entire chamber and throne made from the ore, so its energy continually fuels her.





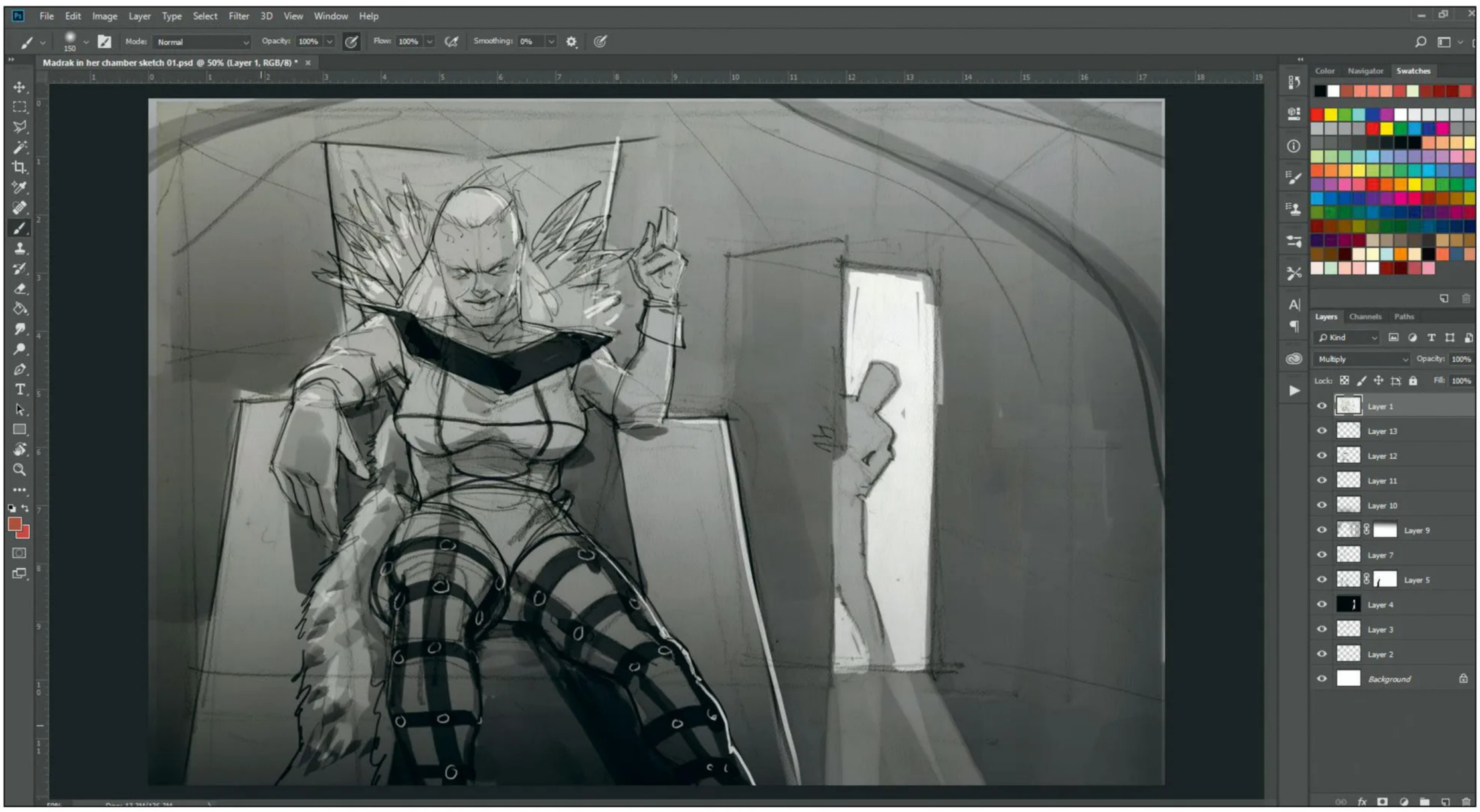
1 Preliminary character concept

Before starting an illustration, I produce a development sketch for each character in the story to ensure that they all feel part of the same world. The sketch should show off the character's costume, but also convey a bit of personality in their stance and facial expression. If you've never read the story, you could still tell a bit about what kind of person this is. I pull references from a variety of sources including films, art and real life to inspire the vibe I'm aiming for.



2 Pencil sketch of the composition

Now let's create a narrative illustration of Madrak! I start using pencil on paper for a loose thumbnail of the composition. I like working on paper at this early stage, because there are fewer distractions than when on my computer. I'm just thinking about basic shapes and what will be the focal point of the image. I'm not worried about doing a bad drawing, just focusing on telling the story through the image.



3 Digital sketch with value

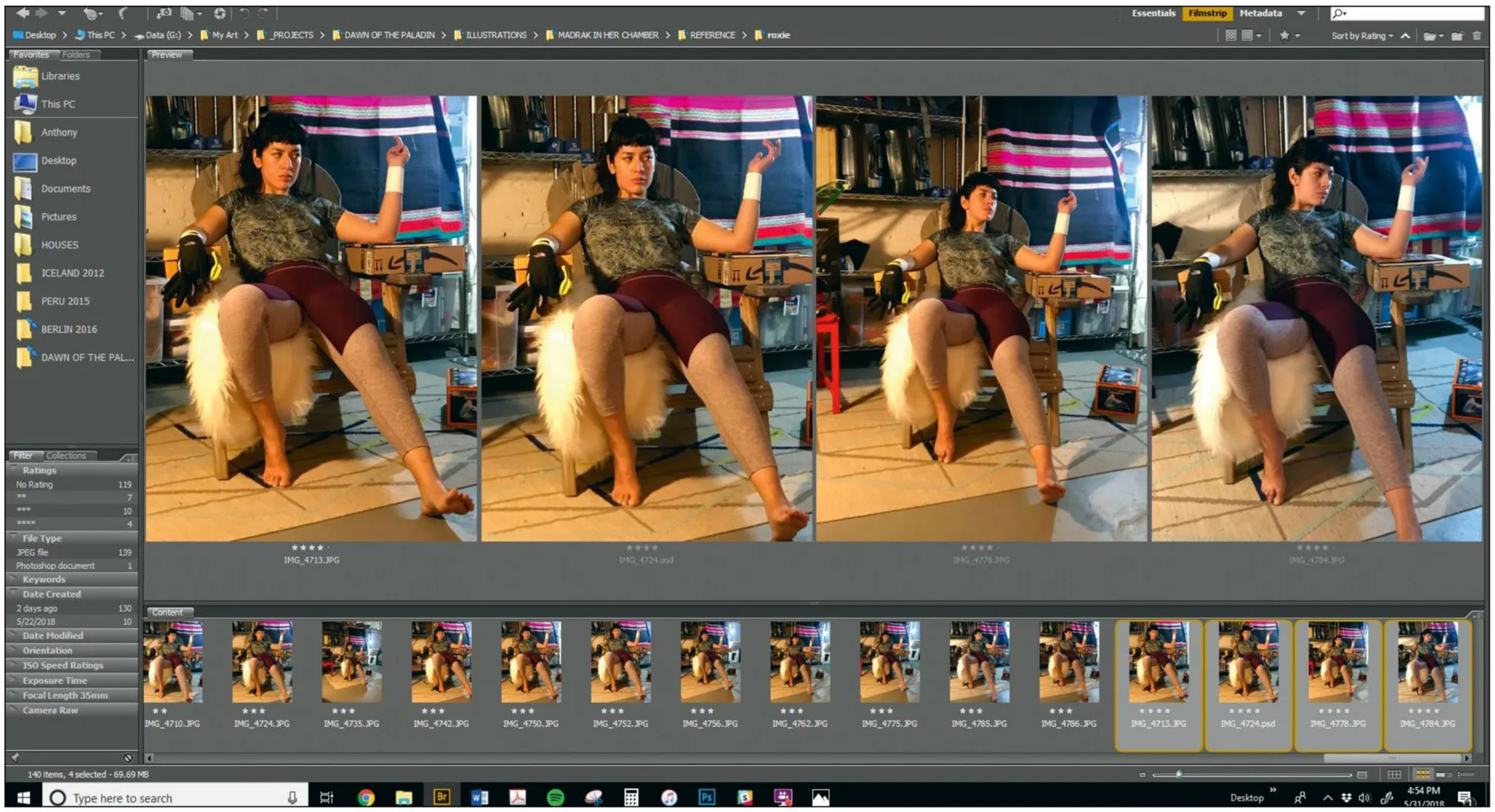
Once I'm happy with the overall composition, I scan the pencil sketch and add values and lighting in Photoshop. By keeping the pencil drawing on a layer set to Multiply at the top, I can paint in greyscale underneath it without disturbing the original. »





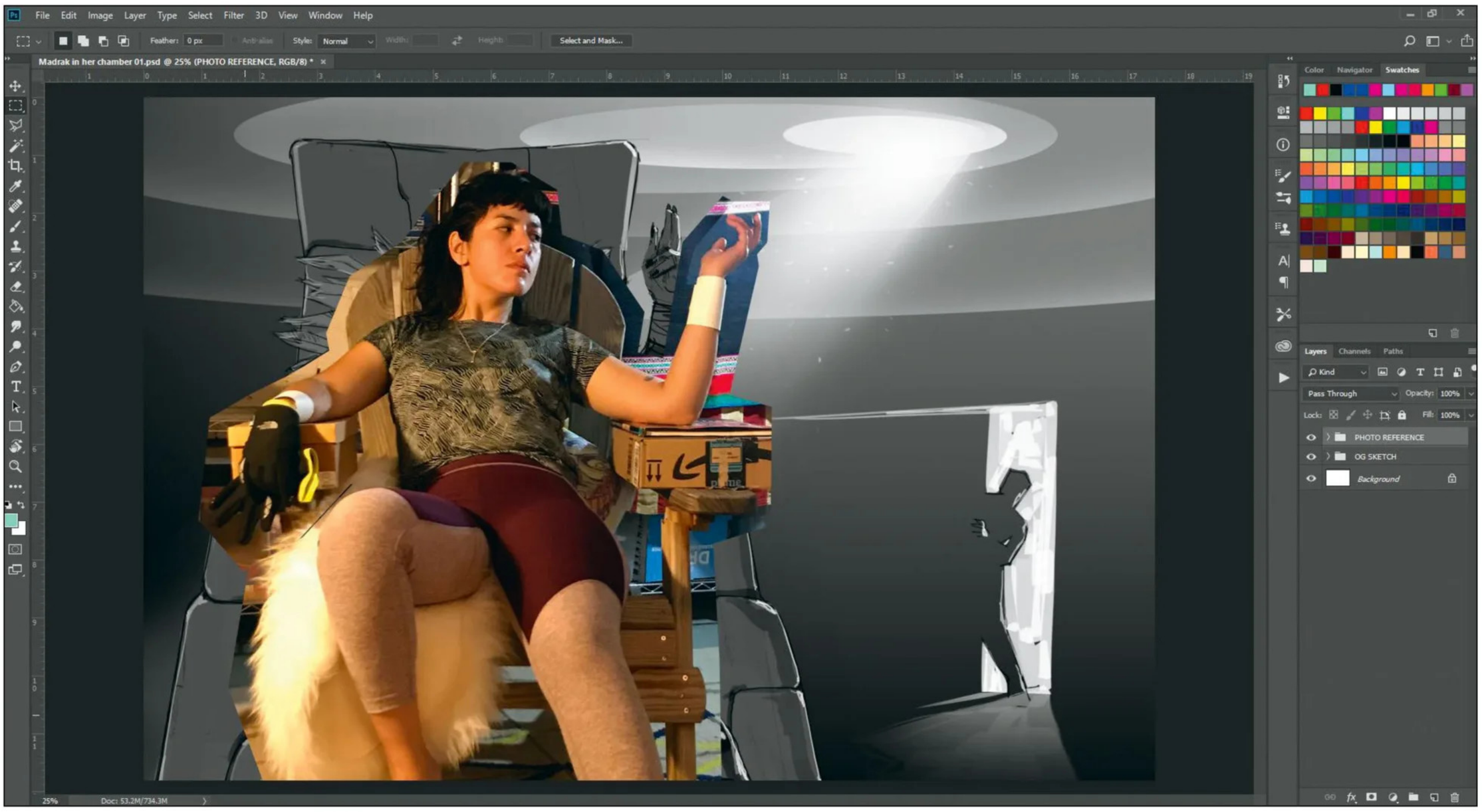
4 Refining the design

With the values set, I start painting above the pencil sketch to refine the design. An excellent way to make your worlds believable is to reference things that exist in real life, and then alter or combine them with new ideas that leave the viewer with a feeling of familiarity. For Madrak's chamber, I'm inspired by things ancient and modern. The throne is influenced by Inca ruins I visited in Peru, while the chamber inspiration comes from the modern installation artist, James Turrell.



5 Taking photo reference

If you're on a budget, you can achieve a lot without the use of elaborate costumes or paid models. In this case, a friend posed for me to provide a general anatomical reference with lighting. I'm using a hanging bulb for the shaft of light and whatever costume articles are close at hand. I'll take dozens of photos at slight variations of angles to capture the perfect gesture.



6 Selecting photo reference and adjusting proportions

Choosing the perfect photo can be tricky when looking at 100 options. I start narrowing them down by discarding the ones that don't work. Then I look for that perfect gesture, sometimes combining multiple photos. Good acting is important when shooting reference. In this case, the pose the model struck was even better than what I had sketched. When I think I've got it, I add it into my composition to see how it sits.



7 Produce a line drawing

I size the sketch to the final image resolution at 300dpi and begin working directly into it. Then I create a new layer, filling it with white and reducing the Opacity so I can still see the photo, but my line is more visible – like a sheet of tracing paper. Then, in a new layer above the white, I do a clean line tracing, while at the same time making modifications and including costume details.



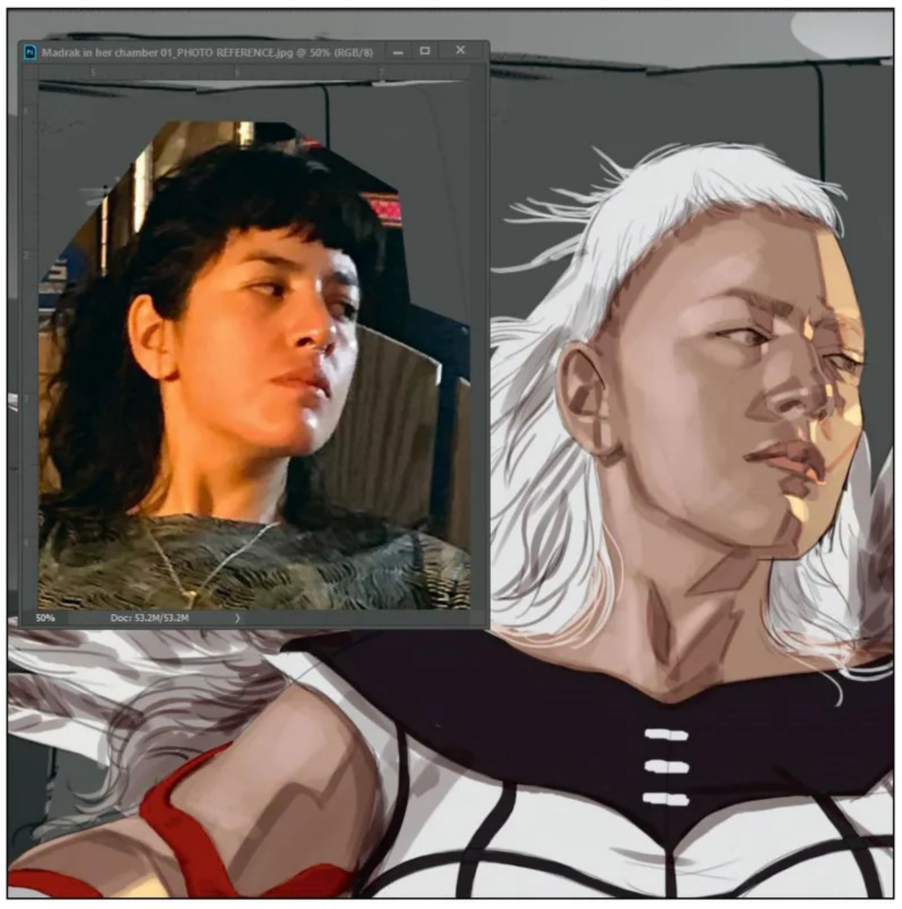
8 Filling in flat shapes

Next I create flat shapes under my line drawing for all the different forms that make up her costume. I use contrasting colours so I can see what I'm delineating. The real colours will go in later, but I usually keep this "wacky colour" version throughout so that I can quickly select parts as a mask using the Magic Wand. »



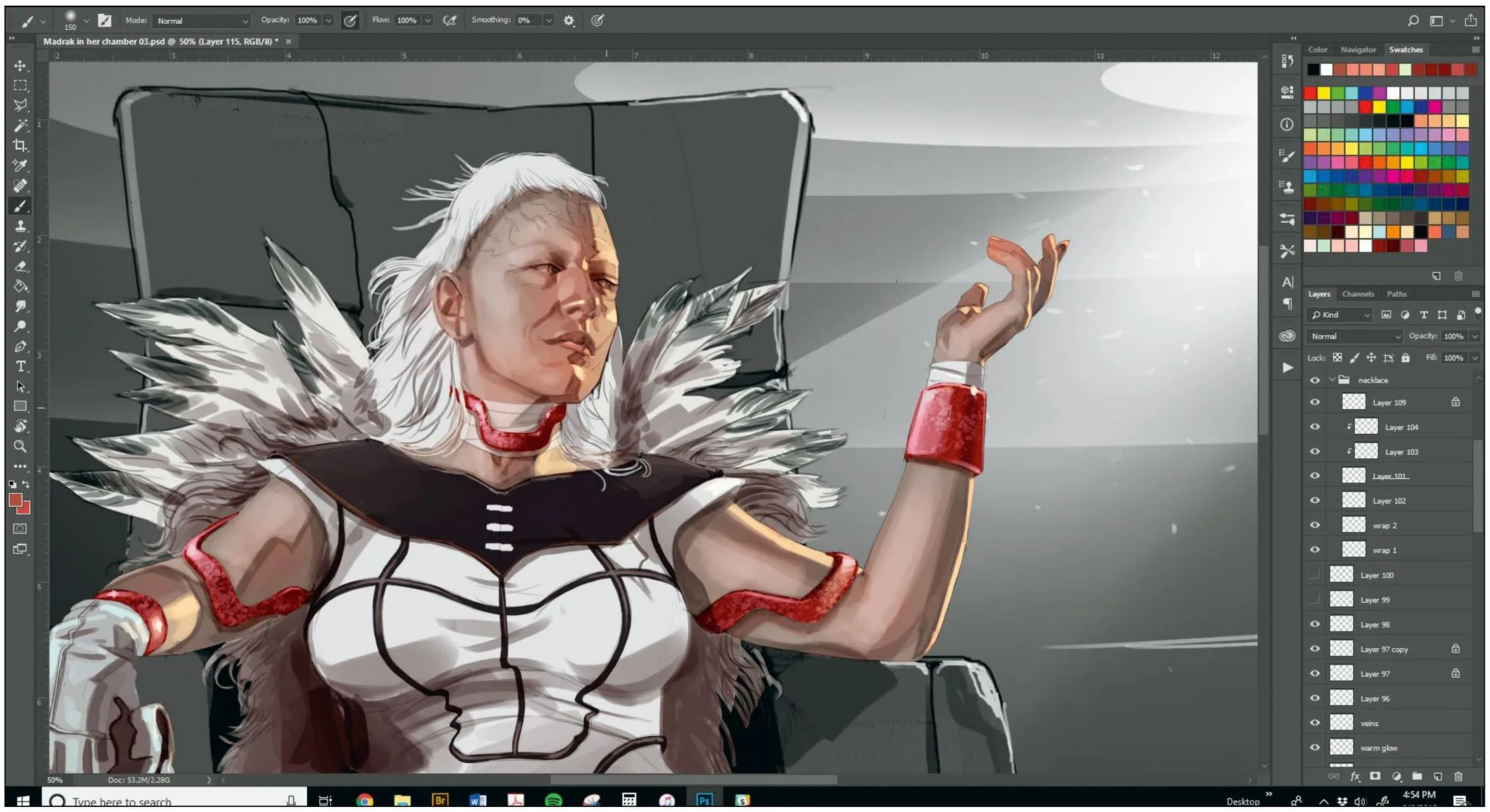
9 Creating a greyscale drawing

I then duplicate the colourful shapes to a new layer, click the Lock Pixels button at the top of the Layers panel (so they retain a clean edge) and fill each one with the correct values in greyscale. Then, selecting each shape with the Magic Wand tool, I paint transparently on separate layers using the basic wedge-shaped brush to render the character in grey values.



10 Introducing colours using Multiply and Overlay modes

To add colour, I group my greyscale layers and create a Gradient Map using two points of colour: a very dark brown (almost black) and white. I clip this to the layer group by holding Alt and clicking just in between my Layer Group and the Gradient Map in the Layers panel. This gives the tonal drawing some warmth in the dark areas. Then I paint into the light areas of the skin with a light yellow on a layer set to Overlay. This will add colour while preserving the underdrawing.



11 Enhancing the rendering

Now that the basic painting is all there, here comes the fun part! I begin to paint using layers set to Normal to add details. Madrak's home planet has lower sunlight levels than Earth. This means her hair and eyes have no pigment, and her skin appears transparent with veins protruding from her forehead. These alien features were determined while developing her concept sketch to visualise elements of the story.





12 Bringing in lighting and smoke effects

I move on to the background, adding colour and refining the light source. Using a photograph I took as inspiration, I render the shaft of light using the Gradient tool and Airbrush to create the bright glow within the dark chamber. Particles floating in the air, smoke and mist add to the mood. I use my custom Clouds brush for the smoke. Additionally, I employ my Rocks brush to add texture to the Ouj ore.





13 Working on background character

I want the background character to be a simple silhouette cut out by the bright light coming from behind the door. To keep it looking realistic, I take a quick photo of myself to use for reference. He needs to appear very frightened of the person he's come to visit and it comes through in his sheepish pose.

14 Adding those finishing touches

At last, I take a good long look at the image. If I have time before my deadline, I'll step away from it, either by going for a walk or waiting until the morning so I can review it with fresh eyes. There's always something to be fixed. In this case, I make some adjustments to the facial proportions to closer resemble the development sketch, and clean up the edges of the circular shapes in the ceiling. Beware Madrak, the intergalactic villain of the Bawn race!

Life at an indie games company

Small is beautiful **Philippa Warr** discovers how proactive artists can reap the benefits from putting in the hours at smaller game studios



Lisa Evans' Growbot work is full of mossy textures and rich colour.



Claire Hummel's character sketches for Obduction include this settler, who's laden with gear.

Small games studios vary as wildly as their art styles. Yet for all their differences, the ultimate aim is the same: to produce a great game with far fewer staff than the behemoths of triple-A development. For artists, there are significant benefits to reap in these smaller spaces, as well as reasons why you might prefer to wait before going small.

Claire Hummel works at Campo Santo, the studio behind forest lookout game Firewatch. Before joining that team she was with Microsoft and then HBO. Back then, Claire's work was wide-ranging. She explains that she probably worked on around 60 titles in her six years, plus a freelance gig designing key characters for Bioshock Infinite.



"At Microsoft I was in a small group, best described as a SWAT team, that was brought on to help projects at various stages: anything from contributing to early pitches, to providing additional concept work, to overhauling a project's art direction", she explains. "I'd jump between a number of different projects on any given day, which could be exhilarating and challenging, but it also meant that I rarely – if ever – got to see a project from start to finish."

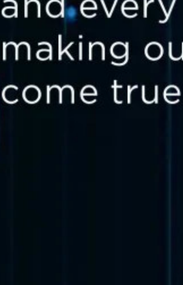
At Campo Santo she's the only 2D artist on staff and the work is formed around her own artistic sensibilities. With that, the sense of responsibility shifts, as Hummel explains, "I have to be way more proactive about doing everything for the game from storyboards, to visual targets, to orthographic prop diagrams and paintovers of models."

Each of the biomes that Luis Antonio was responsible for in The Witness had a distinctive look.



DREAM COME TRUE

Wei Wang, who spent 11 years at



Blizzard and worked on titles like Warcraft 3, Diablo and StarCraft, describes a similar shift when he moved to Bonfire – a smaller studio working on its unannounced first project.

"At a big company there are a lot of processes in place. It's not a bad thing – a big company needs to make the trains run on time," Wei says. "But at Bonfire, I'm given a huge space to be creative, and draw whatever I want. I get to be involved in the pitch process, and every part of what goes into making our game. It's a dream come true for any game artist."



Bonfire's website sparkles with Wei Wang's bright work, including this piece, The Moon Girl.

"I have to be way more proactive about doing everything for the game"

INDUSTRY INSIGHT

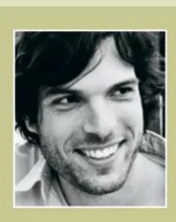
LUIS ANTONIO

The Portuguese artist talks about the appeal of working small

What are the biggest differences between working as an artist at a big studio and working on smaller projects?
The responsibility and ownership. You have to wear many hats and help put out many fires. On my last project, I was not only responsible for creating the art but also the trailers, the website, and the character animation as well as promotional material. It's fun and will make you venture outside your comfort zone.

Are there any specific skills you think artists should develop if they want to work for smaller/indie studios?
It's being able to redefine your role. You need to be able to look outside your specific expertise and see yourself as a developer, helping create a game, not a compartmentalised aspect of production. It can be frustrating, but when you make some unique, it's a rewarding feeling.

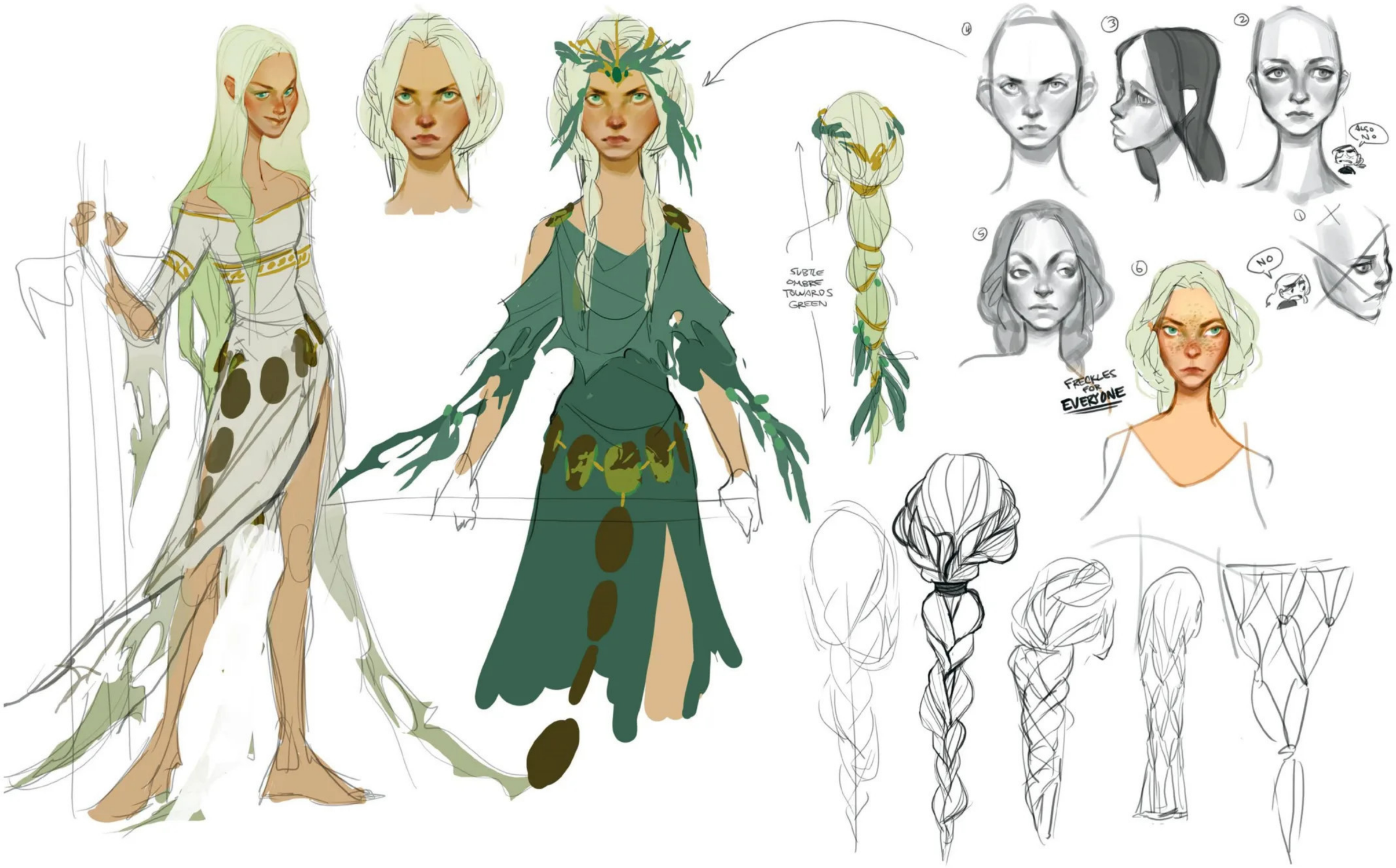
What's the biggest advantage of working at a smaller?
Usually, work hours are more relaxed as long as you deliver your work. There's a stronger sense of camaraderie, where you feel that you're in this together and if you fail or succeed, then it will directly affect you. You also get to be part of the whole game development experience, from setting up a booth at an event, to talking to fans, and play-testing the game. You can feel how your participation influences the final result.



Luis has worked at Rockstar Games and Ubisoft Quebec, and is now developing his first personal game project.

www.artofluis.com

»





Kate Craig works at Fullbright, the studio behind Gone Home and Tacoma. Previously, she was part of a social gaming studio that grew from a single-digit team to nearly 100 people. Discussing Kate's experiences at Fullbright helped highlight how budgetary constraints of a small team can be a positive as well as a negative.

"At a larger game studio someone else goes to promote the game, or attend GDC or accept an award," says Kate. "Certainly not the (non-lead) environment artist. Working with four full-time people during

Claire Hummel's work on Fable Legends' Evienne, the Lady of the Lake who tired of waiting for a king and went adventuring on her own.

Wei Wang's Friends of the Flame shows an audience enthralled.

"Small studios are great for experienced artists who want to make new art and create new worlds"

Gone Home, everyone had a chance to travel and represent the game outside of the... well, basement in that case!" There's a palpable sense of inclusivity in that, which she found personally and professionally important. On the flip side, a larger studio typically has more in the way of resources or budget to spend on licenses for creative 2D and 3D tools such as Maya, Photoshop, ZBrush and Unity.

Operating on a smaller scale also means that direct communication with the rest of the team is not only possible, but desirable. "Everyone at Campo has a good eye for the game we're trying to make," says Claire. "I trust when my non-art coworkers have input on the art, and it's great to be able to openly discuss anything from AI to music choices, despite them not being my particular specialities."

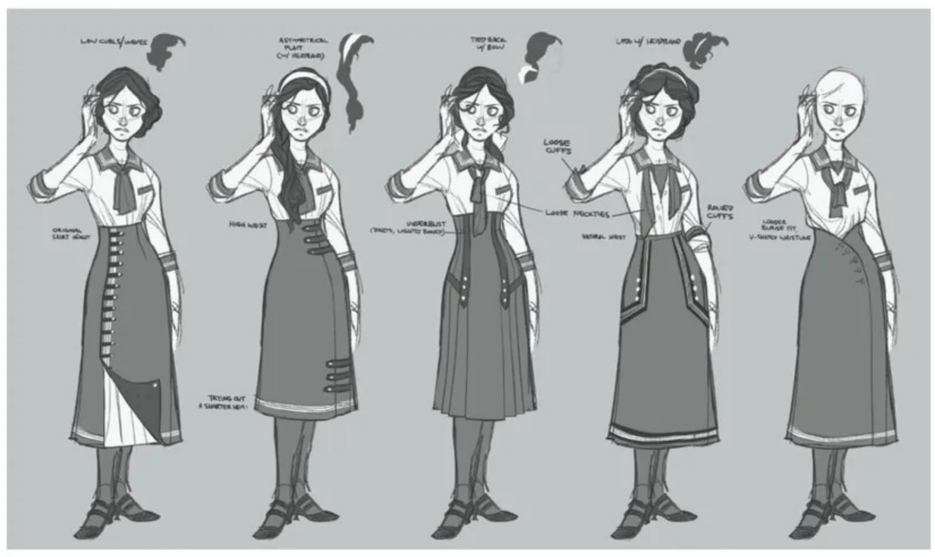
Campo Santo is working on its second game. While the look of Firewatch reflected the vision of art director Olly Moss, game number two will be inextricably Claire's.

NOT LOST IN TRANSLATION

"It's definitely been an interesting challenge, learning how to look inward at my own stylistic preferences and find ways to break them down for the purposes of style guides and art direction," says Claire. "So much of this game is what I love



Costume variations on Bioshock Infinite's young Elizabeth, by Claire Hummel.



Kate Craig's concept sketch for Amy's little ship in Tacoma.





Starbelly is one of Lisa Evans' unique cast of characters in Growbot.

to draw – both in terms of the stylistic tone and the content itself – and it's oddly a lot of work to make sure that things don't get lost in translation on their way to becoming finalised, in-engine 3D assets."

Wei points out that small studios offer great spaces for experienced artists looking for more creative control, whereas large studios can contain valuable opportunities for those earlier in their career.

Regarding the bigger studios, Wei explains, "You can learn so much about the game creation process. There are a lot of mentors for them to learn from, and you're not locked into one career direction. Fortunately, new artists love to work at big studios."

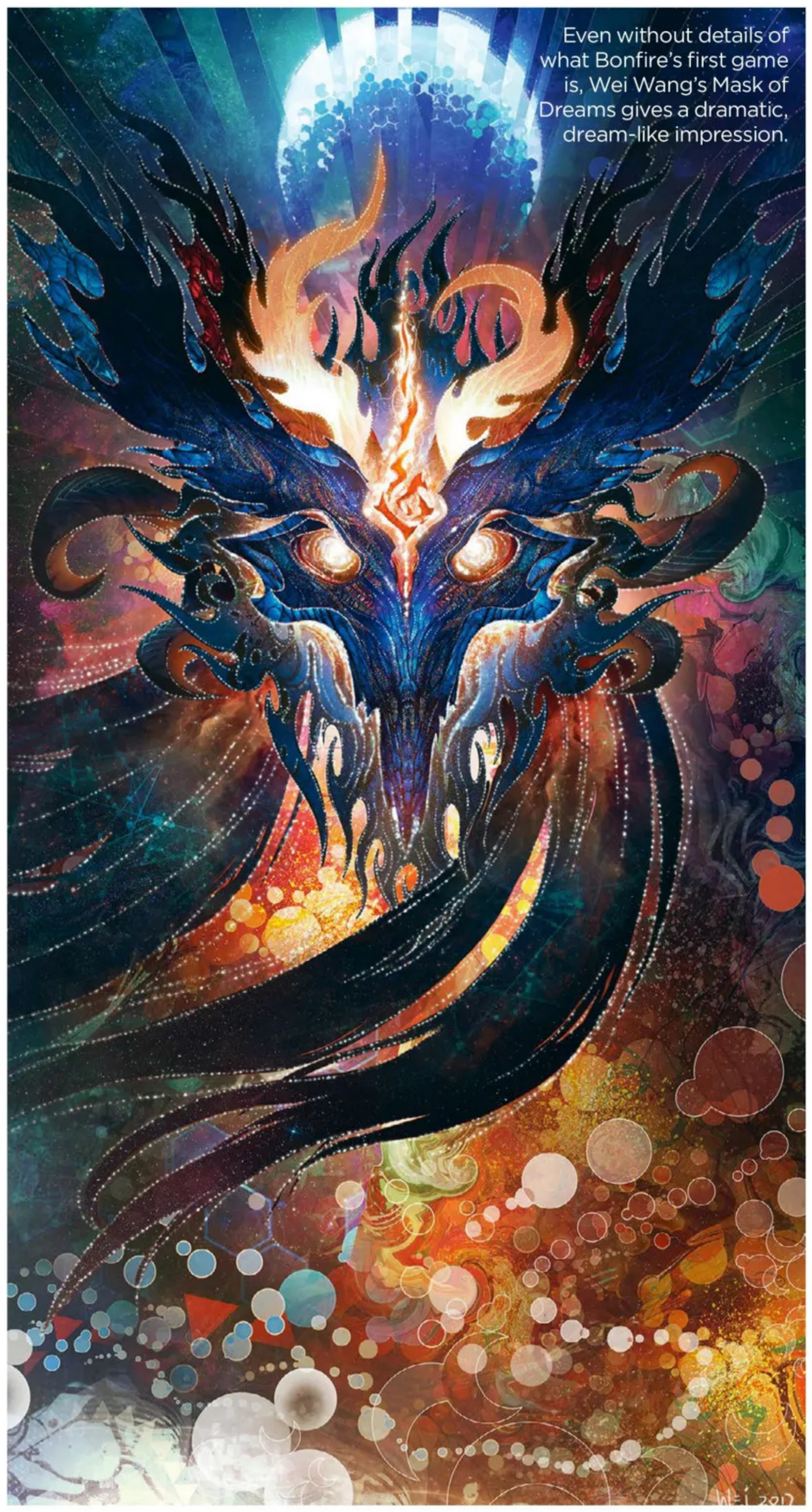
BIG CREATIVE SPACE

Wei points out a key difference: "Small studios are great for experienced artists who want to make new art and create new worlds. The studio may be small, but it offers space for creativity."

That's not to say going from big to small is the only solution. Taking the



opposite approach, **Lisa Evans**, an artist and illustrator, is working on her first full game – Growbot – largely as a one-person studio. As such, her art no longer sits on a page, but provides an interactive space players can move in.



Even without details of what Bonfire's first game is, Wei Wang's Mask of Dreams gives a dramatic, dream-like impression.



This soldier is from Claire Hummel's work on Obduction – a companion piece to the settler seen on page 18. Influences include the American Civil War.

"When I'm designing a spread for a children's book, my focus is on how the reader's eye will move across the page, how the image will tell part of the story, and how it will work with the text." In Growbot, Lisa says it's more about "how I can draw attention to interactive elements and puzzle solutions, and how I can work around the UI and different screen resolutions."

Wherever smaller studio work fits into your career, that kernel of creative control and an attendant need to wear multiple creative hats (even if only in the art department) persists. "You're responsible for concept art, visual targets, storyboards, paintovers, logo design... everything," says Claire. "Having that flexibility is essential, and it's definitely something you should be aware of going in."

GAME ART MADE EASY NORMAL HARD

Learn how to take your game art skills to the next level with the insight of triple-A industry artists

Game art is an attractive prospect for many 3D artists as it provides them with the opportunity to help realise the visual elements that can make a video game iconic. It's an endlessly diverse field, encompassing absolutely everything from vehicles to vegetation. However, one thing that remains consistent among them all is that every individual asset is the work of dedicated artists, constantly improving their craft.

Here, five such artists shine a light on their contributions to the art of video games, from remastering beloved classics to creating memorable boss characters. They explain their go-to software, break down their workflows and tell us how they went from playing video games to making them. From hard surface modelling to texture baking, environments and weaponry, this team of industry professionals has got you covered. Here are some of their top tips for aspiring game artists.



Artist
PROFILE

Mathew O
3D ARTIST AT UBISOFT MASSIVE
WEB: mathewo.co.uk

BOOST YOUR HARD SURFACES

Five top tips for honing your hard surface modelling

INSPIRATION AND REFERENCE

Once you've spent time learning to model and render, it's useful to gain an understanding of real-life mechanics. This helps to keep your own designs grounded in reality. To do this, I find myself looking at all kinds of references – for example, commercial vehicle designs or mecha toys. It's important to not limit yourself to your own field.

COMPETITIONS

I feel that I do my best work under a deadline and with restrictions. Art competitions are a great way of pushing myself to work quickly while creating a design that fits someone else's brief. At the moment, the ArtStation challenges are a great place for this.

DETAIL RATIO

With mechanical design, it's important to follow a 70/30 rule with any small detail work. I find that increasing the amount of smaller detail work is a great way of drawing the eye to areas of interest and creating an overall composition.

TECHNIQUES

Modelling is an inherently slow way to design versus drawing or concept art. It's important to take time and research the techniques being used by other artists in order to make sure you're not slowing yourself down any further than necessary. For me, the biggest boost to my productivity has been moving from Maya to Modo and including a round edge shader in my renders to avoid a large amount of high-poly modelling.

FIND YOUR STYLE

I've been creating my best work ever since I started to figure out my own style. I used to worry a lot about what others might want to see from me until an experienced artist told me to just focus on what I enjoy. Since making that shift, it's been far easier to motivate myself and to create better work.



»



Artist **PROFILE**

Claudiu Tanasie

FREELANCE 3D CHARACTER ARTIST

WEB: artstation.com/nikudy

UPGRADE YOUR SKILLS

How to keep your texture baking and 3D skill set up to date

Claudiu Tanasie has been in love with drawing for as long as he can remember but it was only when he got his hands on a copy of 3ds Max in college that his passion for 3D art was ignited. It was pure chance that landed him his first freelance role for a studio in Hungary. "It was the first time I thought I could do this for a living without starving," he explains.

Since then, Tanasie has worked on the likes of Call of Duty and The Witcher for AMC Pixel Factory before forging a successful freelance career that has seen him contribute to Dishonored 2, Doom and Lawbreakers.

Knowing which software to employ for specific challenges is crucial to Tanasie's work – "for example, Marvelous Designer for an asset that has a lot of clothes and needs to look hyperrealistic, or Fusion 360 for a robot that would take forever to model with traditional polygon modelling."

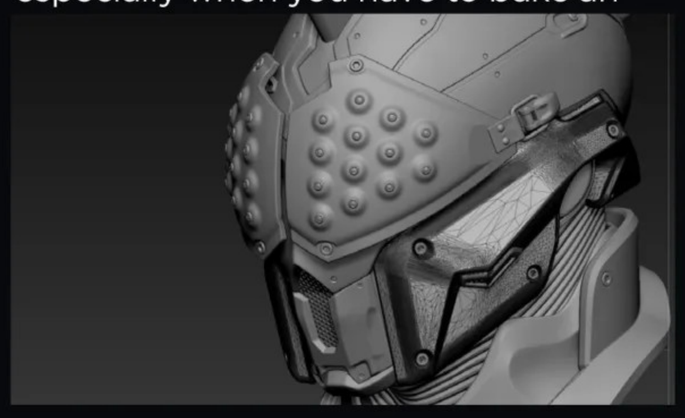
Tanasie attributes his success to a ceaseless hunger for knowledge that involves watching hours of tutorials. He adds, "The problem is not a lack of information, it's about how much time you are willing to invest."



ENHANCE YOUR TEXTURE BAKING

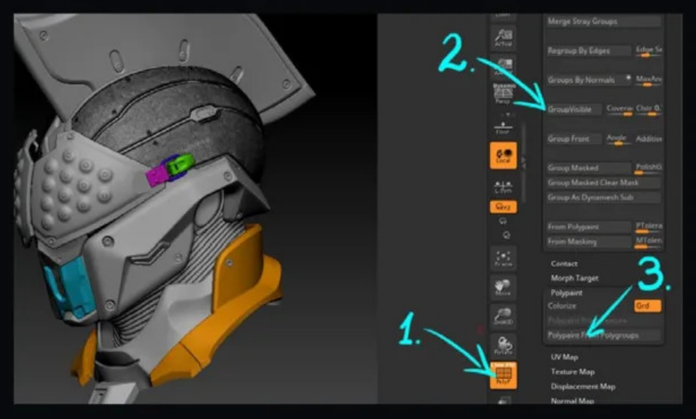
Learn how to produce quality bakes that will save you from a texturing nightmare

1 DECIMATE THE HIGH-DEFINITION MODEL Depending on the hardware specifications of your workstation and the complexity of your model, this step can be optional or mandatory. Personally, I always decimate my high-poly geometry. This is time well spent, especially when you have to bake an ambient occlusion or thickness map. I also name my SubTools if I haven't done so already.



2 ASSIGN POLYPAINT TO THE HIGH-POLY MODEL

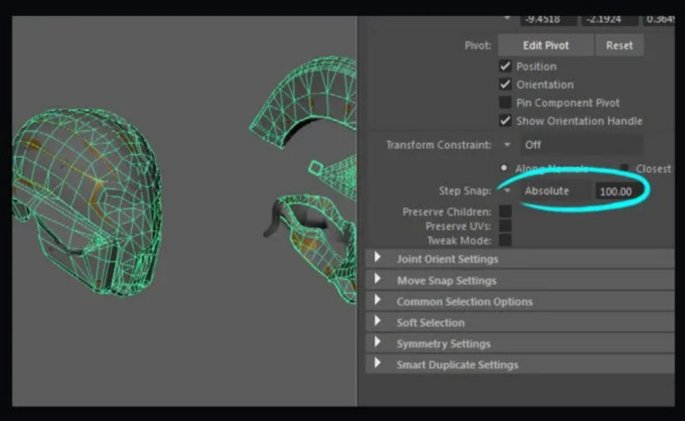
The polypaint assigned in ZBrush will be used to generate an ID map. To speed up the process, I activate Draw Polyframe, select the topmost SubTool and press Cmd/Ctrl+W a few times until I get a colour different enough from the other SubTools. Then I press Tool>Polypaint>Polypaint from Polygroups, switch to the next SubTool and repeat. Once I'm finished with all the SubTools, I go to the Zplugin menu and choose Export from the SubTool Master subpalette, to batch export them.



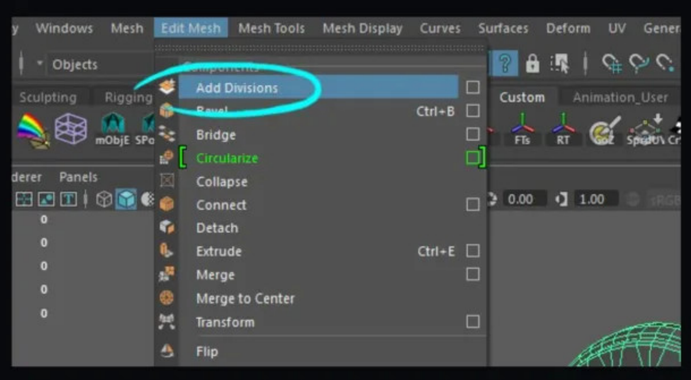
3 OFFSET THE GEOMETRY

I import both the low-poly and high-poly geometry in a new Maya scene. Select Move Options, then set Step Snap to absolute and the value to 100.

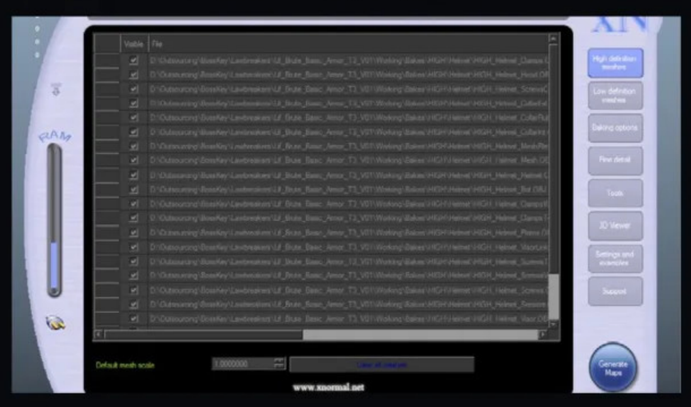
This ensures that you will only move objects in multiples of 100 units. If you lose some of the files, this will make it easier to re-create them later on. Go through all the pieces and whenever two of them are close to each other, offset one so that there's enough space between them. Make sure you offset the low-poly and corresponding high-poly geometry the same amount, then export the offset high-poly.



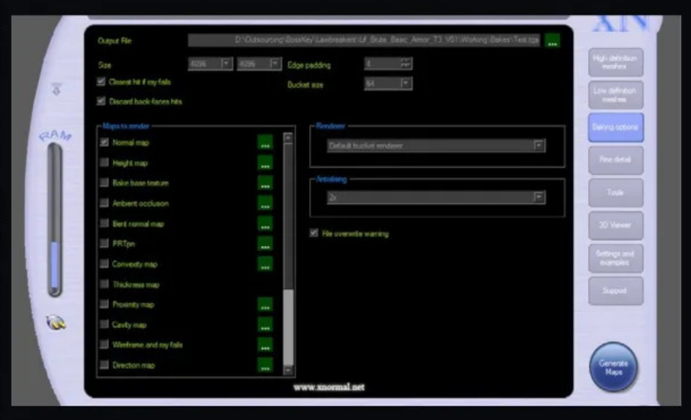
4 CREATE A LOW-POLY MESH In order to get better ray casting, we will add some subdivisions to the low-poly. This geometry will only be used in the baking process, so make sure you save a copy of your low-poly mesh beforehand. Select all the low-poly objects, then choose Add Divisions in the Edit Mesh menu. Most of the time one subdivision level is enough, but if you find you're still not getting good results, you can add another. Alternatively, you can manually add some cuts in the problematic areas but this is a time-consuming option. Export this geometry as an FBX file and don't forget to give it a clear name so that you won't mistake it for the low-poly that will end up in the game.



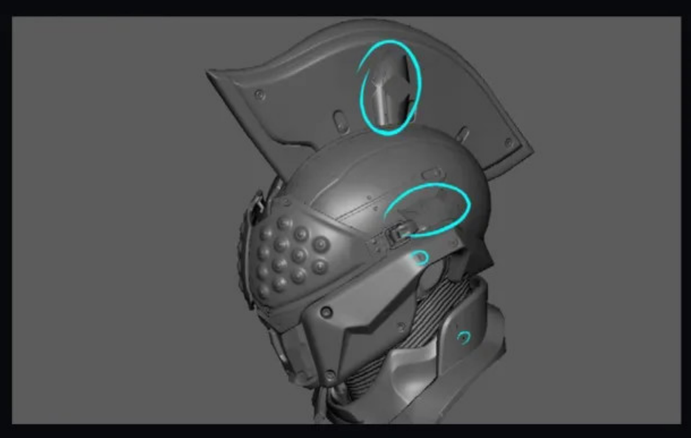
5 LOAD THE GEOMETRY TO xNORMAL Start xNormal, select the High Definition Meshes tab, then drag and drop all the high-poly geometry. Select the Low Definition Meshes tab, and drag and drop the helper low-poly mesh.



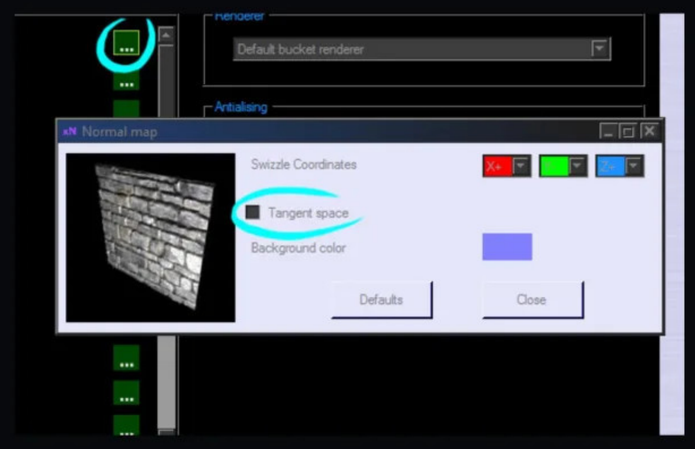
6 BAKE A TEST NORMAL MAP In the Baking Options tab, choose the path and size of the resulting texture bakes. For now, only tick the normal map. This map is the fastest to bake and is best suited to find out the optimal ray cast distance. Then click Generate Maps.



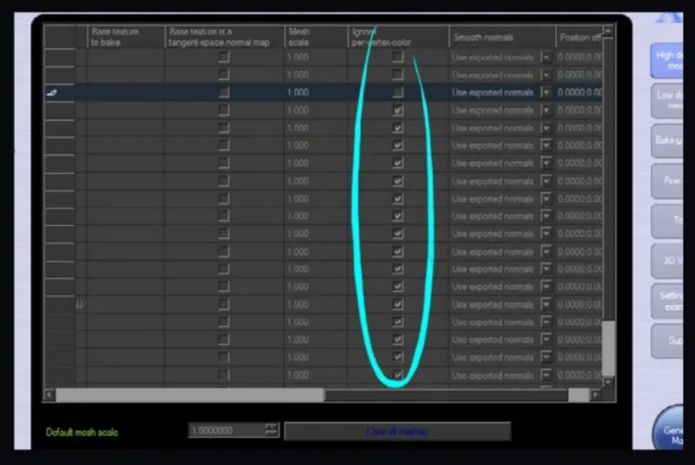
7 CHECK FOR ERRORS Use your viewer to check for baking errors. Take your time and inspect the entire model – this is the best time to adjust the baking settings. If some details of the high-definition model get cut out, go to the Low Definition Meshes tab in xNormal to increase the Maximum Frontal Ray Distance and Maximum Rear Ray Distance. If some details get projected in the wrong areas – one finger being projected on a neighbouring finger, for example – try decreasing the ray distances. In some complex scenarios, you may not be able to find a perfect value for the ray cast distance. When this occurs, you can bake multiple versions of the maps and combine them in Photoshop.



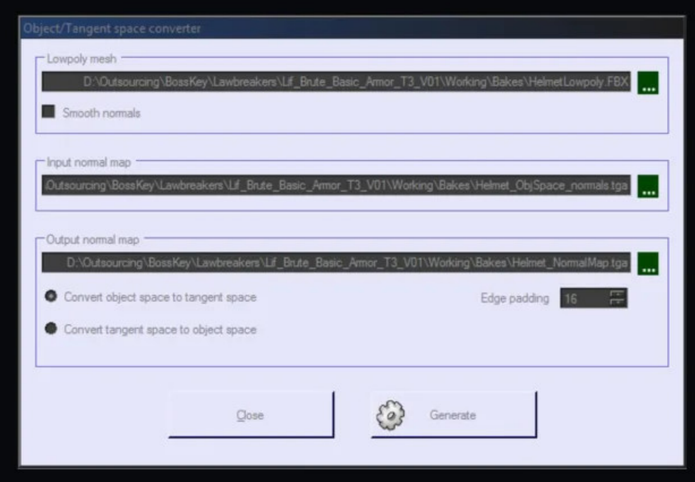
8 BAKE AN OBJECT space normal map and ambient occlusion map Once you're happy with the test normal map, it's time to bake some of the final maps. In the Baking Options tab, click the green square next to the normal map to open its baking options. Uncheck Tangent Space. This is the biggest difference from the standard workflow. We will generate an object space normal map that we will later convert into a tangent space normal map. The reason this technique works is that an object space normal map is somewhat independent of the low-poly mesh used. Tick the Ambient occlusion map too, press Generate Maps and take a break while xNormal does its thing.



9 BAKE THE ID MAP Next is the ID map, which we will use to easily mask different parts of the texture. For xNormal to be able to bake the vertex colour we assigned in ZBrush, we need to uncheck Ignore Per-Vertex-Color for each high-poly mesh in the High Definition Meshes tab. Make sure to uncheck Normal Map and Ambient Occlusion, and then press the Generate Maps button. The ambient occlusion map results depend on the Ignore Per-Vertex-Color setting, so if you need to go back and generate another one, you will have to reverse that setting, too.



10 CONVERT THE OBJECT SPACE NORMAL MAP TO TANGENT SPACE The last step we need to do is to generate a tangent space normal map from the object space normal map and the low-poly mesh that we will use in-game. Switch to the Tools tab and choose Object/Tangent Space Converter. Set the path for the low-poly mesh, the one used in the game and the path for the object space normal map that we generated in Step 8. Finally, set the path where you want the resulting tangent space normal map to be generated. Make sure Convert Object Space to Tangent Space is checked and then go ahead and press Generate.







Artist **PROFILE**

Mak Malovic
LEAD ENVIRONMENT ARTIST AT BLUEPOINT GAMES
WEB: malovicmak.com

MASTERS OF THE REMASTER

Mak Malovic, lead environment artist at Bluepoint Games, discusses remaking a classic

"One of the challenges is bringing them up to current-day standards but keeping the original mood and feeling," Mak Malovic says about remastering beloved video games. Malovic has spent the last four years as an environment artist at independent video game developer Bluepoint Games in Austin, Texas. The studio has now garnered a reputation for delivering high-quality updates of much beloved games, even being dubbed 'masters of the remaster.'

Malovic has worked on upgrades of Gravity Rush and the Uncharted series but he admits that remaking the much beloved Shadow of the Colossus was the biggest challenge yet. "Since Shadow has such a large and dedicated fanbase, we knew that any changes we made would be highly scrutinised," adds Malovic. "We constantly had to ask ourselves 'Are we going too far? Does it still feel like the original game?'"

The added pressure wasn't helped by the fact that this was the studio's first fully blown remake, which involved re-creating all assets from the ground up. Malovic was responsible for creating the incredible architecture seen throughout the game. The process would usually begin with him looking for inspiration in real-world sources and a series' newer titles, but Shadow of the Colossus is a standalone game so the latter wasn't applicable.

He goes on to explain these early stages further. "We create a beauty corner representing the 'new' look and quality we are striving for. We also try to understand how much more detail we can introduce while maintaining the original mood and feeling and without affecting how players remember the game. With Shadow of the Colossus, we fortunately had amazing concept art which helped a lot."

The creation then begins in Maya. "Most of the time with remasters and remakes, we start with the original source art. We treat it like a highly detailed white box. Then we clean up the geometry, if needed, so it's easier to add more detail and definition."

"In the case of Shadow of the Colossus, because we knew we wanted to go further, we had to rebuild a lot of the geometry, using the source art as guidelines. Once we had the general blockout done, we would start to add additional architectural elements on top of that in Maya. The challenge here was trying to stick to the collision bounds of the original game, which is why we assembled the levels mostly in Maya and not in our game engine. Having a constantly growing Maya architectural kit library helped a lot when we were getting started with new assets."

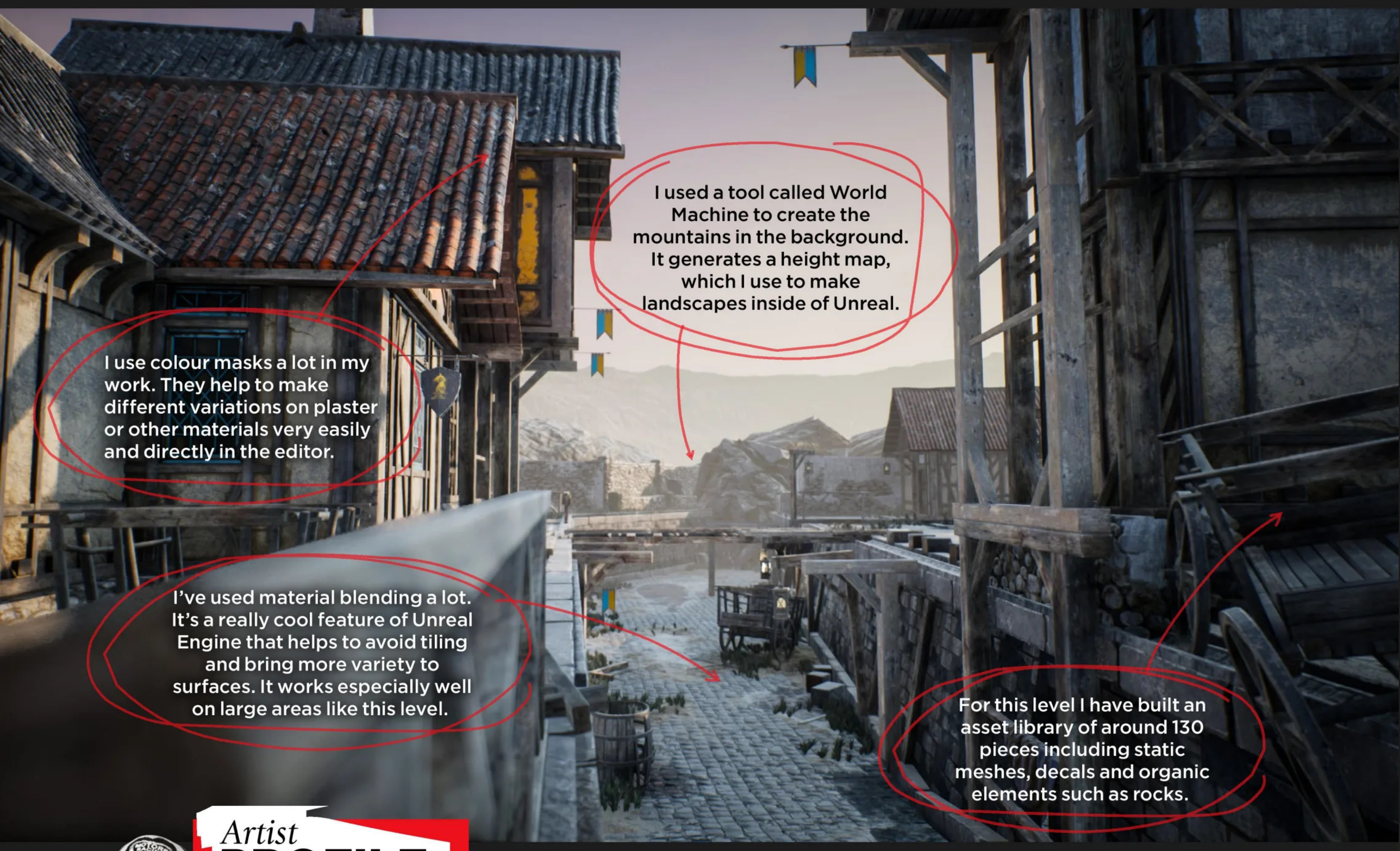
After this step, he would utilise ZBrush to give standout pieces of architecture the character they have inside the finished game. "I always start with a high-poly blockout done in Maya and build off that. I would usually pick a few things in any given level I thought were 'hero pieces' and sculpt those."

Malovic has some tips to share with those looking to achieve his level of texturing detail. "Focus on the big reads first; once you nail those, then go down to the medium, small and finally micro details. Additionally, keep in mind the rule of thirds, and try and think about rhythm, not repetition."





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Artist **PROFILE**

Denis Rutkovsky
COFOUNDER AND ART DIRECTOR AT ARTCORE STUDIOS
WEB: artcore-studios.com

WORLD BUILDING

A guide to starting your own outsourcing studio and building atmospheric environments with Denis Rutkovsky

CAN YOU TELL US A LITTLE ABOUT HOW AND WHY YOU STARTED ARTCORE STUDIOS, YOUR GAME ART OUTSOURCING STUDIO?

I spent many years working on big projects with various studios and for a large chunk of this time I was the lead artist of the Insource team at Crytek in Kiev, Ukraine. After that I moved to the UK, where I had the pleasure of working on Batman: Arkham Knight with Rocksteady Studios. It was towards the end of this production that I came up with the idea of starting my own studio.

Artcore Studios began as a small team of just two artists, and we managed to get clients and build a base without any external investments. Now we have a cozy office in the city centre of Kiev, with a team of ten talented artists. The best part is that we grow and gain experience every single day.

WHAT ARE SOME OF THE ADVANTAGES AND DISADVANTAGES OF BEING A FREELANCE ARTIST?

Being a freelancer might not be as financially stable as working for a studio but you do have the advantage of being able to manage your own time. If you do it right, you can make more money than a studio would offer you. You'll also develop a range of skills separate from the art like managing your finances.

A big downside is that you won't be working with so many like-minded people. This is what I miss the most about working for bigger studios – you can't put a price on inspiration from your colleagues and friends. Working freelance is great but it is always better to make a start with studios as it's the only way to develop your skill set properly. There are so many fields linked to game art that would be impossible to learn about on your own.

HOW DO YOU GO ABOUT CREATING THE MOOD OF YOUR WORK?

A good starting point for the mood of an environment is deciding which kind of lighting to use – sunlight or artificial sources. I don't use many effects in post-production as it affects the mood too much. This should be created with the lighting setup.

CAN WE GET SOME TOP TIPS FOR LIGHTING?

Even after making so many environments with lighting set-ups, I still consider myself something of a beginner in this area. Having a good contrast between light and dark areas is something I have found helpful, as well as trying to avoid having any complete darkness in an environment. I would also suggest playing around with the fog in Unreal Engine as it has huge and often positive effects on lighting.



Artist
PROFILE

Ethan Hiley
WEAPON ARTIST AT TREYARCH
WEB: artstation.com/ethanhiley

WEAPON SPECIALISTS

Ethan Hiley talks crafting weapons for Call of Duty

"Before getting into the industry, I used to spend a lot of time experimenting with 3D modelling in a variety of mod tools for different games. From there, it just seemed natural to progress towards developing games," says Ethan Hiley of his path into the games industry. He began his career as an environment artist but a fascination with hard-surface modelling and building digital weapon models in his spare time eventually led to a change in direction.

As Hiley shifted his focus towards props, vehicles and then weapons, he found himself overseeing the weapon art for Call of Duty: Modern Warfare Remastered. He continues, "Subsequently the opportunity presented itself to join the awesome team at Treyarch, and it was an opportunity I couldn't pass up."

Hiley describes working on the remaster of one of his favourite games, Modern Warfare, as an experience that was equally amazing and stressful. "We poured over every meticulous detail ensuring that when someone picked up any of the weapons, they immediately looked and felt just like they did back in 2007, but with the level of fidelity capable on current consoles."

One of his recent projects, Call of Duty: Black Ops 3, features a variety of near-future weaponry that required him to collaborate closely with the concept artists that dream them up. "It's our job to realise the weapon in a 3D space and make sure it looks right in first-person. The key is to maintain an intriguing and iconic first-person silhouette," he explains.

The process of achieving this begins with drawing up a design profile for each weapon. "This dictates how design expects the weapon to behave in-game and what kind of players they expect to use it," adds Hiley. From this point, Hiley and his team look towards real-world weaponry to help determine aesthetic and silhouette.

When it comes to his software of choice, Hiley favours Maya for the majority of his modelling, ZBrush for high-poly modelling, Marmoset for baking and Substance Painter for texturing. Much of his weaponry consists of a variety of materials and finishes, each crafted with the same attention to detail.

"When we texture our weapons, we treat each part of it as if it were its own asset, from the barrel all the way down to individual bolts. This approach helps to define the individual pieces and make the weapon feel as though it was assembled from a variety of parts rather than one uniform material across the whole thing" explains Hiley.

"Often, if a weapon is textured with everything receiving a similar material treatment, all the details tend to blend together and get lost. You lose all that construction detail you built in and the materials don't help to give the weapon its character. By treating each part as a unique surface, it helps to highlight the variety of construction detail and bring a bit more personality to the materials."



CAREER



Airship Images has a particular focus on producing real-time hair and fur, including various characters in Battlefront II.





MODE

WORDS BY BRAD THORNE

Practical advice and industry insight to help you push play on your video game career

"The games industry is one of the most creative, diverse, exciting and sought-after industries for a digital artist to work in today. As a games artist you can create stunning worlds, characters or props in styles ranging from the realistic to cartoony or anywhere in-between," says Simon Fenton, head of games at Escape Studios, an industry-leading academy for visual effects and digital art.

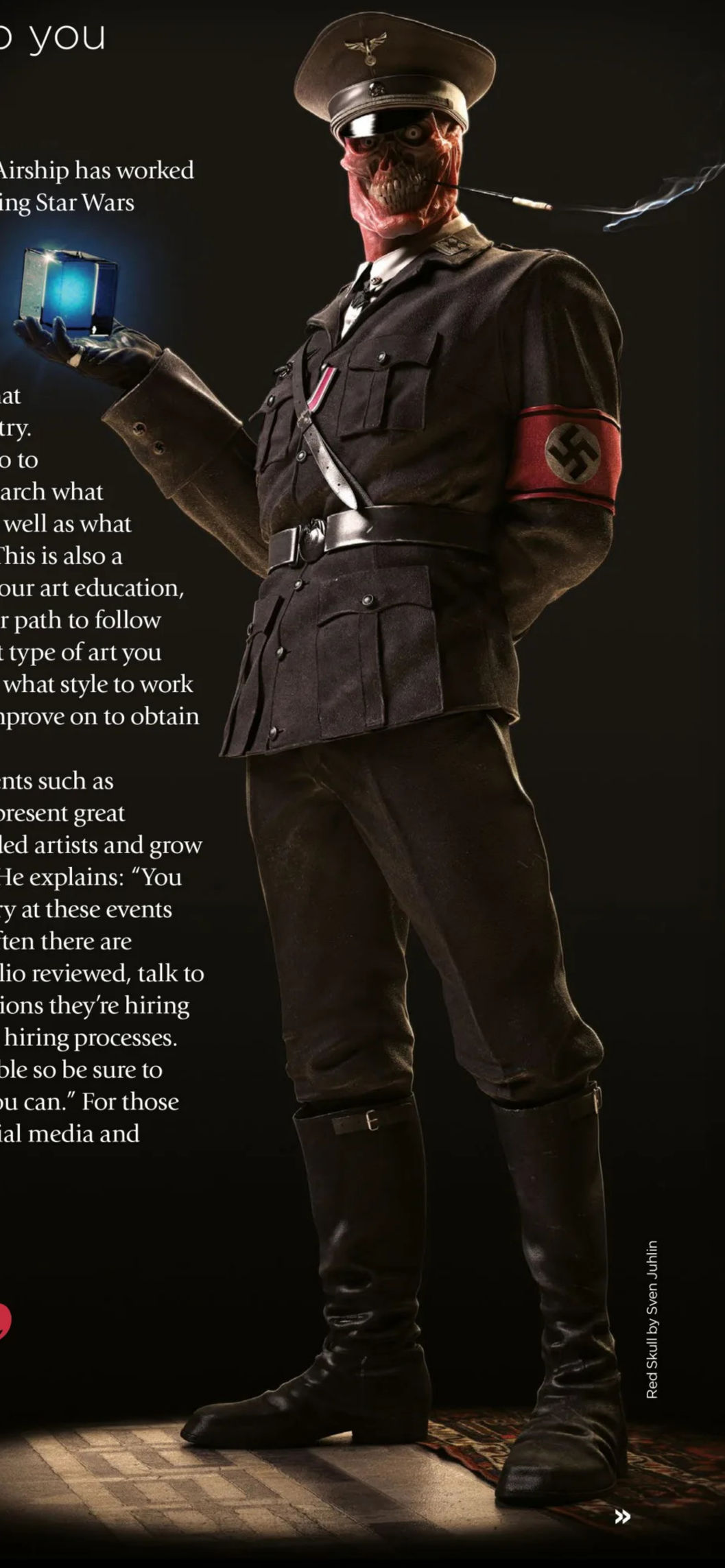
He continues: "The UK games market in particular is enjoying record growth; last year, UKIE announced that the market had grown by 12.4% over the previous year to a record-breaking £5.11bn (UKIE, Feb 2018), largely attributed to the delivery of 'world-class content for an ever-expanding eager audience'. You have to be at a really high standard to make it in the games industry – you have to reach a very high bar."

With those facts in mind, getting a start in the video game industry can often feel like an unbeatable level, a vicious cycle of disappointment. That's why 3D World has gathered producers, recruiters, artists and tutors to assemble the ultimate cheat sheet. Each contributor will dispense wisdom and experience on every part of the process, from creating a CV to acing an interview. Follow this expert advice to take your video game career to the next level.

"It's definitely a competitive landscape, there are a lot of people that are hungry to work in this industry," says Declan Paul, producer at Airship Images. Since opening in 2009 Airship has worked on numerous AAA titles, including Star Wars Battlefront II, Forza Horizon 3 and The Division. When beginning the search for a role in the video game industry Paul states that it's always best to look for roles at the studios that inspire you to work in the industry.

He adds: "Tailor your portfolio to these studios and be sure to research what they've worked on in the past as well as what direction they're going in next. This is also a helpful thing to do early on in your art education, as it will provide you with a clear path to follow when making decisions on what type of art you should create for your portfolio, what style to work in and what areas you should improve on to obtain that position."

According to Declan Paul, events such as conventions or presentations represent great opportunities to meet like-minded artists and grow a network of industry contacts. He explains: "You will learn a lot about the industry at these events and have fun while doing so. Often there are opportunities to get your portfolio reviewed, talk to studio recruiters about the positions they're hiring for and learn more about studio hiring processes. These opportunities are invaluable so be sure to take advantage of them when you can." For those that can't reach such events, social media and



> "You have to be at a really high standard to make it in the industry – you have to reach a very high bar"
>
> Simon Fenton, Head of games, Escape Studios

Red Skull by Sven Juhlin

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▲ **Above:** Ognyan Zahariev's faithful re-creation of Dumbledore's office.







> **"Only include work that you are really proud of in your portfolio"**
>
> Ognyan Zahariev, lighting artist, Ubisoft Sofia

online competitions represent an ideal opportunity to connect with the community whilst showcasing your abilities. Artists can provide feedback and encouragement to each other from halfway around the world. The best art will often attract the attention of established studios in their search for the freshest talent.

Unanimous among our contributors is the assertion that every application you make should be tailored specifically to the studio in question, so do your homework. Any application should demonstrate that you have done your research on the studio and their work, past and present. The application is an opportunity to sell yourself to potential employers and showcase exactly what you're capable of.

Despite the numerous roles for artists in the industry, advice for crafting a stand-out application is fairly universal. "Focus on quality and not quantity in terms of the projects you include in your portfolio," says Ognyan Zahariev, who successfully landed a job as lighting artist at Ubisoft Sofia, where he's been rising through the ranks for five years. He continues: "Have a well-organised portfolio with breakdowns of your work. Only include work that you are really proud of. The recruiters and artists going through your work will only be looking for quality and not the number of projects."

"First and foremost is a strong portfolio with no fillers or weak work. Try to tailor your portfolio so that it is exciting and relevant to that developer," adds Fenton. "For example, highly stylised work might not appeal to a developer that makes realistic



Fawkes by Ognyan Zahariev



driving games. It's not just strong work that sets you apart – showing your prospective employer that you understand their business means you are switched on and thinking professionally. Research how the company operates, its past games and any interviews that they have given. Mention past papers they may have published and check their blogs. Talking about why you like their art and backing it up by mentioning specific techniques, people or processes demonstrates an inquisitive, driven approach."

For freelance character artist Sven Juhlin, who got his start in the industry working for EA DICE, one of the most important things is to showcase some originality in any portfolio. He gives an example: "Don't do a version of the Hulk if it's not a really impressive version. There are already so many versions of him out there and it's so hard to stand out from the crowd. Create your own character with

Above (top): Ognyan Zahariev maintains that it's important to develop skills across various areas of 3D art.

Above (lower): Escape Studios focus on teaching industry-standard software, including Maya, ZBrush, Substance Painter/ Designer and Unreal Engine.

7 TIPS FOR THE PERFECT PORTFOLIO

PRODUCER AT AIRSHIP IMAGES DECLAN PAUL GIVES US HIS TOP TIPS TO A WINNING PORTFOLIO

01 ART FIRST

What employers want to see first and foremost is your art. Make sure your work is the main attraction and that navigating your portfolio is as straightforward as possible. Remember, you need to win someone over within the first few seconds they look. Use ArtStation to create an effective and easy-to-use portfolio site.

02 QUALITY OVER QUANTITY

One or two great projects is infinitely better than multiple mediocre ones. When you're putting together your portfolio be sure to include only your best work. Don't become too attached to old projects, be objective and if you need help ask other artists for their opinions. Keep in mind that you are only as strong as your weakest project.

03 FUNDAMENTALS ARE KEY

Employers are looking at your portfolio and assessing how well you grasp the fundamentals (e.g. perspective, light, anatomy and composition). Having a solid understanding of these is vital and will shine through in your work.

04 TAKE YOUR ART THROUGH THE PIPELINE

It's important to have projects where you take an asset through the full pipeline. A portfolio consisting of only sculpts will not give us enough confidence that you'll be able to handle the rest of the work you'll encounter if hired.

05 STATE POSITION YOU INTEND TO FILL

Make sure you state the position you are hoping to fill on your website; there's no need to write 'student', 'student artist' or 'aspiring'. 'Character Artist – Seeking Work' is a better choice and looks far more professional.

06 BE CAREFUL ADDING GROUP WORK

At Airship we prefer to see personal work as opposed to group work as often it can be difficult to determine exactly what you contributed. If you're including group work in your portfolio, make sure it's clearly labelled and you include breakdown shots to show what you worked on.

07 BE CONSISTENT

Consistency throughout your portfolio is generally preferred, as it makes you look more professional from the offset. This ranges from having the same page layout for each project to the same image layout for each breakdown.

»

an original backstory and try to make something that feels fresh and new."

LEVEL TWO: THE INTERVIEW

If your application piques the interest of potential employers you may well be contacted for an interview. This part of the job-hunting process is often the most nerve-wracking for any applicant, in any industry. However, there's some sound pieces of advice that can prevent the experience from becoming the stuff of nightmares.

According to Fenton it all comes down to being prepared on the basic – and yet easy to get wrong – interview essentials. "Make sure you know where you are going and turn up ten minutes early, dressed smartly. My personal tip is to stay away from coffee as this can make you agitated. Always answer questions honestly; it's a small industry and you will get found out if you're anything less than truthful." He continues: "Research the company and their history so you can ask them questions regarding the future direction and how you might progress. Try to practise, perhaps get friends to ask you challenging questions. I have often asked potential candidates why they chose to do something in a particular way and if I hear 'I don't know', that's not a very interesting answer."

As Paul points out, rejection is a natural part of any job-hunting process – the trick is to turn it into something positive and not to let it prevent you from moving forward. "The primary thing to keep in mind when receiving rejection letters or emails is that it's a 'not now' rather than a 'not ever'. Use these rejections to motivate yourself to do better and apply again once you've updated and improved your portfolio. This cannot be done in a couple of weeks, so make sure you substantially update your portfolio before reapplying if you want to be properly considered for the role."

He adds: "It's also worth following up on your rejection emails and asking for feedback on your portfolio. You may not hear back but it's worth the

Below: Juhlin prefers to take on shorter jobs for a range of studios in order to keep up the momentum in his career



Left: According to Juhlin finding your own style is crucial to success in this increasingly busy industry

A GAME ARTIST'S TIMELINE

HEAD OF GAMES AT ESCAPE STUDIOS, SIMON FENTON, GIVES US A TYPICAL CAREER TIMELINE IN THE VIDEO GAME INDUSTRY. EACH COMPANY IS VERY DIFFERENT AND WILL HAVE THEIR OWN UNIQUE STRUCTURE, BUT AS A ROUGH GUIDE ONE'S CAREER MIGHT LOOK SOMETHING LIKE THIS:

JUNIOR ARTIST

Your first role; you are good enough to get in. Be productive and practise – you will be working on less important tasks but will have a lot to learn.

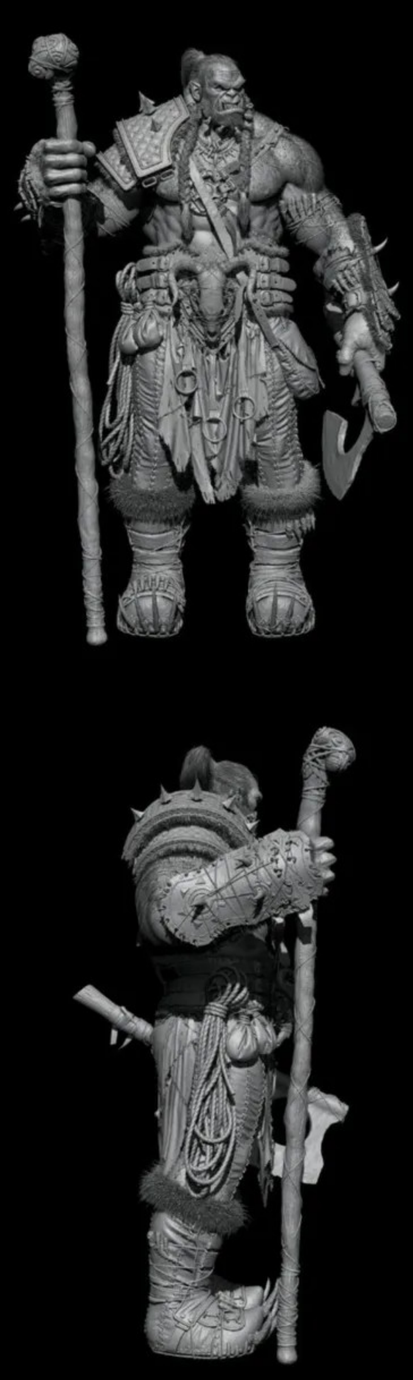
ARTIST

You have a good grounding, and will be progressing with experience and mentoring juniors. You will be working on more important tasks from now on.

effort on the off-chance you do, as this could provide you with an insight of what you need to improve to get to where you want to be."

As Fenton points out, "there are no shortcuts to success." The bar may be high for a career in the games industry, but as each of our contributors will attest, it is not unreachable if you are willing to put in the necessary time and effort. So what are you waiting for? Take note of everything you've learned in this feature and get ready to enter career mode.

> **"Follow up on rejection emails and ask for feedback on your portfolio"**
>
> Ognyan Zahariev, lighting artist, Ubisoft Sofia





▶ Having drawn characters from a young age Juhlin found the transition to 3D character art an easy decision to make.



SENIOR ARTIST

Becoming a senior artist can take about five years and there is of course more responsibility, mentoring and you will be handling critical path tasks – helping the lead to implement the vision.

LEAD

Working with the art director, producer, lead designer and lead code you are now responsible for the artistic implementation across the entire art team. This can be a very managerial position and you are potentially doing less art.

PRINCIPAL

The same level as a lead. This is a role for someone who has been able to gain guru status artistically but does not want as much of a managerial role.

ART DIRECTOR

The art director is responsible for the overall look of the project and will work with the directors and leads to make sure the vision is implemented.

THE ART OF GAMING

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THE ART OF GAMING

Discover how video game artists bring exciting virtual worlds to life. Packed with interviews, tips and tutorials, this special edition celebrates the work of artists in the industry, revealing how the first sketches and concept designs are transformed into the iconic characters we play and the incredible environments we explore.



[INTERVIEWS]



[FEATURES]



[TUTORIALS]

